ASSET AND LIABILITY MANAGEMENT, QUALITY OF FINANCIAL REPORTING AND FINANCIAL PERFORMANCE OF MANUFACTURING FIRMS IN THE BUILDING AND CONSTRUCTION SECTOR IN KENYA

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Asset and Liability Management, Quality of Financial Reporting and Financial Performance of Manufacturing Firms in the Building and Construction Sector in Kenya

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DECLARATION

This thesis is my original work and has not been presented for award of a degree in any other University.

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This thesis has been submitted for examination with our approval as University Supervisors.

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DEDICATION

To my wife Hellen, sons Chrispus and Clinton and my daughter Winda

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ABBREVIATIONS AND ACRONYMS

ANOVA   Analysis of Variance

CAK   Competition Authority of Kenya

CAPM   Capital Asset Pricing Model

CAS   Current Asset Structure

CLS   Current Liability Structure

CMA   Capital Markets Authority

COVID   Corona Virus Disease

CV   Coefficient of Variation

DER   Debt to Equity Ratio

DR   Debt Ratio

DV   Dependent Variable

EAPCC.   East Africa Portland Cement Company

ERP   Enterprise Resource Planning

F/Y   Financial Year

FAT   Fixed Assets Turnover

FRL   Financial Reporting Lag

GDP   Gross Domestic Product

IV	Independent Variable
JIT	Just in Time
KAM	Kenya Association of Manufacturers
KNBS	Kenya National Bureau of Statistics
KNCCI	Kenya National Chamber of Commerce and Industry
LCASP	Large Current Asset Structure Portfolio
LCLSP	Large Current Liability Structure Portfolio
LFATP	Large Fixed Asset Turnover Portfolio
LM	Lagrange Multiplier
LROEP	Large Return on Equity Portfolio
LTLTP	Large Term Liability Turnover Portfolio
MPT	Modern portfolio Theory
MV	Moderating Variable
NCA	National Construction Authority
NSE	Nairobi Security Exchange
OLS	Ordinary Least Squares
PPE	Plant Property and Equipment
RBS	Risk Based Supervision

ROA	Return on Assets
ROE	Return on Equity
ROE	Return on Equity
ROS	Return on Sales
SCASP	Small Current Asset Structure Portfolio
SCLSP	:Small Current Liability Structure Portfolio
SFATP	Small Fixed Asset Turnover Portfolio
SPSS	Statistical Package for Social Science
SROEP	Small Return on Equity Portfolio
STLTP	Small Term Liability Turnover Portfolio
TLT	Term Liability Turnover

DEFINITION OF OPERATIONAL TERMS

Asset management   Asset management is a component of financial management and involves the process of planning for, organizing, directing and controlling the assets of a business which form the asset structure of the firm. It involves a trade-off between the risks of holding the assets against the returns as implied by the opportunity cost of lost income for non-return generating assets. Current assets are suitable for daily operations but are largely non return generating assets. Fixed assets are the productive resources of the business but are largely illiquid. A trade-off is needed to strike a balance between the amounts of either of the assets to hold on the balance sheet so as to maximize business return

Asset and Liability Management   Asset and liability management is a subset of financial management which involves planning, organizing, coordinating and controlling the financial resources of a business and how they are deployed to achieve organizational success.

Current Asset Structure   Current asset structure is the proportion of current assets in the total assets held by a firm. The levels of current assets held reflect the risk attitude of the firm given that these assets are available for paying off maturing and overdue financial obligations and therefore reduce financial risk but are largely non return generating and therefore impose heavy opportunity cost of lost income for the business.

Current Liability Structure   Current liability structure is the proportion of current liabilities in the total liabilities held by a firm. The levels of current liabilities used in financing assets and operations reflect the risk attitude of the firm given that these liabilities involve heavy financial risk given that they are payable within a short period

of time and could lead to financial distress when a firm is momentarily devoid of current assets. On the flipside, they generally involve low to zero cost of financing and therefore are instrumental in increasing profitability and returns for the business.

Financial Performance	Financial performance is an indicator of how well a firm uses the resources at its disposal to generate profits for the shareholders of the business. There are two types of financial performance the income statement oriented financial performance that is measured by margin ratios particularly gross profit margin and net profit margin and the balance sheet oriented financial performance that is measured by the return ratios especially return on assets, return on equity, return on investment and return on capital employed.
Financial Reporting Lag	Financial reporting lag is a quality of financial reporting information that shows the timeliness of financial reporting and availing of financial information for economic decision making. It is taken as the time period between the end of the financial year and the date the financial statements are released often a few weeks or months after the end of the financial period. It is deemed that short financial reporting lags represent timely information and therefore indicate high quality of financial reporting and vice versa.
Fixed Assets Turnover	Fixed assets turnover is the ratio of sales income of a business to its total fixed assets and is a measure used to indicate the management of non-current assets with respect to the efficiency and effectiveness with which they are used to generate sales revenue for the business. The higher the turnover, the better the management of those assets in generating income for the business and vice versa.

Liability Management	Liability management is a component of financial management and involves the process of planning for, organizing, directing and controlling the liabilities of a business which form the financial structure of the firm. It involves a trade-off between the risks of using liabilities against the returns as implied by the attendant costs. Current liabilities are less costly but involve a great deal of financial risk while long term liabilities are costly but have a reduced level of financial risk.
Long Term Liabilities Turnover	Long term liabilities turnover is the ratio of sales income of a business to its total long term liabilities and is a measure used to indicate the management of long term liabilities with respect to the efficiency and effectiveness with which they are utilized to generate sales revenue for the business. The higher the turnover, the better the management of those liabilities in helping generate income for the business and vice versa.

ABSTRACT

All business organizations including those in the building and construction sector are always concerned about their financial performance. Despite the concern for financial performance in general and profitability in particular, it is still not clear how the management of assets and liabilities affects the financial performance of manufacturing companies in the building and construction sector in Kenya. The variations in the asset and liability management policies across the industry is reflected in the variations in the asset and liability structures. There is lack of empirical and theoretical clarity as to how the asset and liability management influences profitability of these companies. Empirically, extant research arrives at conflicting findings as to how asset management is related to financial performance. Theoretically, whereas the portfolio theory of Markowtz (1952) recommend optimal asset and liability structuring to minimize risk and therefore boost performance, the agency theory of Jensen and Meckling (1976) on the other hand fail to pinpoint a clear association between the asset and liability structures and financial performance. The trade-off theory of Gitman (1974) and asset finance matching theory of Sagan (1955) imply an inverse relationship between asset and liability structures and profitability. This study is designed as a causal exploratory survey using a census of manufacturing companies in the building and construction sector in Kenya as listed by the Kenya Association of Manufacturers subject to their reporting dates and data availability which translates to a sample of 44 companies. It pursues five objectives relating to establishing the effect of management of current assets, current liabilities, fixed assets and long term liabilities on the financial performance of the study companies. Further it aims to check how the quality of financial reporting moderates this established ex-ante relationship between the management of assets and liabilities on one hand and financial performance on the other. It is carried over a 5 year period covering 2016 to 2020 and is rooted in the positivism philosophy of research. This forms 220 firm-year observations. Bivariate and multivariate linear panel regression models are adopted after conducting model specification tests. The indicators used in the study are current asset structure (CAS) for

current asset management; current liability structure (CLS) for current liability management; fixed assets turnover (FAT) for non-current asset management; long term liabilities turnover (TLT) for long term liability management and return on equity (ROE) for financial performance. The tests of hypotheses were conducted using the t-statistic at 95% confidence interval. At the descriptive level, the firms are shown to have a moderate to high quality of financial reporting but moderate to poor levels of financial performance. At the inferential level, the findings reveal that at the bivariate level current asset structure has a positive effect on financial performance and that both current liability structure and fixed assets turnover have positive effects on financial performance. Long term liability turnover is found to have no effect on such performance. At the multivariate level, CAS and TLT have a negative effect while CLS and FAT have a positive effect on financial performance of manufacturing companies in the building and construction sector in Kenya. At the joint level, the quality of financial reporting has a positive moderation influence on the effect of asset and liability management on financial performance except for current assets management, where the moderating influence is negative. The findings support the trade-off theory with respect to asset management and the agency theory with respect to liability management. The study was limited to the firms listed by the Kenya Association of Manufacturers in the building and construction sector and recommends an enhanced sample for all company sizes to check out if the findings are generalizable to other sets of companies outside of the manufacturing ones.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

This section provides a background that ultimately provides the basis of the statement of the problem. It uses global and contextual theoretical and empirical evidence to lay a background to the problem with respect to how asset and liability management decisions affect financial performance of manufacturing firms in the building and construction sector in Kenya. The construction industry is key to the growth of Kenya's economy and the realization of the Big four Agenda (Kenya Association of Manufacturers- KAM, 2018).

1.1.1 Asset and Liability Management

Asset and liability management is a subset of financial management (Lakew & Rao, 2014). Financial management is one of the several functional areas of management which is center to the success of any business. It involves planning, organizing, coordinating and controlling the financial resources of a business and how they are deployed to achieve organizational success. In a nutshell it revolves around the decisions of financial managers with respect to capital budgeting, financing, working capital, dividend, capital structure and risk management decisions. Inefficient financial management, combined with the uncertainty of the business environment often lead business enterprises to serious problems (Lakew & Rao, 2014). In essence, businesses may institute financial management decisions aimed at boosting their financial performance.

Critical among financial management decisions are those surrounding management of assets and liabilities which fall on either side of the balance sheet. According to Yohanes, Lemie and Shibru (2018), careless asset and liability management practices are the main causes of poor financial performance and failure of business enterprises.

Regardless of whether it is an owner-manager or hired-manager, if the asset and liability management decisions and practices are wrong, profitability of the company will be adversely affected and consequently, the entire business organization (Lakew & Rao, 2014).

Asset and liability management form a big part of financial management decision (Yohanes, Lemie & Shibru, 2018). The resources controlled by a business as a result of past events and transactions and from which future benefits are expected are generally referred to as assets. They usually comprise non-current assets like plant, property, equipment, machinery and long term investments as well as current assets that comprise inventory, accounts receivable, cash, short-term investments and prepaid expenses. Lakew and Rao (2014) state that the practices adopted for managing the mix of the non-current and current assets are critical because they have risk and return implications. Whereas non-current assets lead to high returns, they are usually more risky because of the difficulty of converting them into liquid form for day to day operations. Current assets on the other hand are less risk because they are in cash or near cash spendable form, but they portend very minimal returns for the business (Lakew & Rao, 2014).

Liabilities are financial obligations of a business that arise from past events and transactions, the settlement of which in the future usually leads to outflow of financial resources from the business (McLaney, 2017).). Just like the asset management practices, liability management practices and decisions have implications on the risk and return dimensions of the business. Long term liabilities like bonds, debentures, mortgages and long term loans are less risky since the outflow of resources due to them is in the long-term. Despite the low risk, they often have high costs because of the capital market floatation conditions and other related restrictive covenants. On the flipside, current liabilities like creditors, accruals, commercial papers, bank overdrafts, promissory notes and short term notes have a high risk because of the need and possible inability to settle the dues to them on a short notice. They however involve a low cost of finance. The practices instituted must be able to have an optimal trade-off between these risks and the related returns.

The management of assets and the related asset structures is aimed at optimizing the trade-off between the risks and returns of holding these assets. These relate to the structure of the current assets, the structure of the non-current assets, the asset holding periods, the turnover of assets, the mix of the current and non-current assets, the asset conversion period and the financing of these assets. All these should aim at minimizing the risk of holding the assets while maximizing their return as articulated by the Markowitz (1952) model and its subsequent modifications for optimal portfolio mix.

The management of liabilities and the associated liability structures is equally aimed at reaching an optimal level that minimizes the risks associated with the liabilities while maximizing returns through the control of the cost of short term and long term financing. These practices surround such issues as how much of current liabilities to hold, the expected level of long term liabilities, the capital structure decisions, the financial structure decisions, the liability payment period, the liability periodic turnovers and the associated practices of financing these liabilities. All this must ultimately achieve a conducive risk-return tradeoff level (Zada, Yukun, & Zada, 2019).

This study focused on current asset management, non-current asset management, long term liability management and current liability management and how these separately and jointly affect financial performance of firms in the building and construction industry. In addition, how this effect is moderated by the quality of financial reporting is investigated. This is because issues dealing with management of assets and management of liabilities can benefit immensely from the quality of information available for shaping the adopted practices (Zada, Yukun, & Zada, 2019).

Management of both current assets and current liabilities when looked at simultaneously is often referred to as working capital management. Working capital is defined as a company's total investment in current assets and financing by current liabilities that a company expects to be converted into cash within a year or less (Tran, Abbott, & Chee, 2017). The investment in working capital involves carrying costs and shortage costs, so the firms have to find the tradeoff between them. Working capital management involves

managing the short-term assets and claims of a firm. Working capital management is the strategy that a business applies to ensure that it operates efficiently by acquiring, monitoring and using its current assets and liabilities to have the optimum returns (Baker & Martin, 2011).

Current asset and current liability management (working capital management) is important due to many reasons. For one thing, the current assets of a typical firm accounts for over half of its total assets (Baker & Martin, 2011). Excessive levels of current assets can easily result in a firm's realizing a substandard return on investment. However, firms with too few current assets may incur shortages and difficulties in maintaining smooth operations (Latif, Arshad, Fatima, & Farooq, 2011). Businesses are therefore required to maintain a balance between liquidity and profitability while conducting their day to day operations. Abuzayed (2012) indicates that one key indicator of working capital management is current ratio which is a ratio of the current assets to current liabilities.

Both current asset and non-current asset management relate to the choices made by top level management in the firm regarding the portfolio choices of the mix current assets and current liabilities and the related risks and returns (McLaney, 2017). Top management considers the available assets appraises and them to ensure that the return of the ones undertaken is higher than their costs. They involve investment in capital projects for long term generation of returns and well as investment in liquid assets for operations. When making the asset mix portfolio decisions, the decision makers decide whether adding the assets of the firms today will enhance the revenues of the firms in the future to cover the capital costs and other expenses from the assets (Zada et al., 2019). According to Veeraraghavan (2018), key considerations in the asset mix decision making include risk, return, costs, timing of cash flows and costs and financing sources. They relate to such decisions as acquisition of long term assets, replacement decisions, expansion decisions, product diversification decisions, international capital budgeting, discontinuation and abandonment decisions and the related management practices (McLaney, 2017).

The management of current liabilities and management of long term liabilities are closely associated with both short term and long term financing decisions and structure. Financing decision making entails establishing the sources of funds for the company and their mix in the capital structure. According to McLaney (2017), after making the investment decision, an organization should then make decisions regarding where to get the finances to commit to the planned investments. Baños-Caballero, García-Teruel and Martínez-Solano (2012) further indicate that the financing decision must consider the mix of the different financing sources in the capital structure so that weighted average cost of capital is minimized. Besides, Erambo, Mulwa, Aketch, Sangoro and Muchibi (2016) indicate that effective financing decisions enable the firm to take up profitable investment opportunities for hence performance and firm value. This indicates that poor financing decisions could increase cost of capital for the firm, increase its riskiness and impair its performance and value.

The quality of asset and liability management is likely to be impacted upon by the quality of information available for decision making. Accordingly, the quality of financial reporting is therefore a condition that is likely to affect the asset and liability management practices. According to Oluoch (2014), the quality of financial information has four main attributes. These are reliability, relevance, understandability and comparability. McLaney (2017). States that the first two are content characteristics that touch on the integrity of the financial information reported in financial statements while the last two are presentation characteristics that relate to how information is presented in the financial statements so as to be understood and made comparable by the users of the financial information.

Financial reporting decisions is the disclosure of the financial results and other information related to the financial performance of the company by the management to shareholders and other external stakeholders (McLaney, 2017). This is conducted regularly (mostly for a year) and informs the company's stakeholders about the profitability, liquidity, efficiency and solvency of the company. Financial reporting is a critical financial management practice of the organization and an essential aspect of

corporate governance. According to Seru and Sufi (2021), the level of financial reporting is mostly indicated by the level of disclosure (disclosure index) of the organization in the annual financial statements.

The attitude towards risk and the risk profile is reflected in the asset and liability management practices adopted by the business (Ukhriyawati, Ratnawati & Riyadi, 2017). There are three main strategies that can be used in the financing of assets using the available liabilities. These are the aggressive approach, the hedging approach and the conservative approach (Ukhriyawati, Ratnawati & Riyadi, 2017). In the aggressive approach that defines companies that have risk taking managers, most of the assets are financed using current liabilities. The cost is low but the risk of failure to fulfil the attendant financial obligations is quite high. In the hedging approach, the management is likely to carry out practices that involve balancing off the terms of the liabilities and those of assets. In this respect, current assets are financed using current liabilities while non-current assets are financed using non-current liabilities. On the extreme side is the risk averse approach, where the management wishes to avoid risk of failure as much as possible such that they finance most of the assets using the less risky long term liabilities.

1.1.2 Financial Performance

According to Seru and Sufi (2021) financial performance can be defined as an objective measure of how well a firm uses assets and other resources from its primary mode of business to generate revenues. It indicates how profitable a person is from the application of its resources in a specified financial period (Seru & Sufi, 2021). Further this term is used as a general measure of a firm's overall financial health over a given period of time, and can be used to compare similar firms across the same industry or to compare industries or sectors in aggregation. Financial performance of companies can be measured by use of accounting information or stock market values in a financial management decisions context.

Financial performance can be looked at from three points of view (Oluoch, 2014). These are the income statement performance point of view, the balance sheet performance point of view and the cash flow statement performance point of view. From the income statement perspective, financial performance is called margin performance. It shows the profitability in terms of cost efficiency. The margins represent the residual profit after accounting for the costs of running the business. The common margin measures are gross profit margin and net profit margin with the former relating to the efficiency of the selling process and the latter relating to the overall efficiency with respect to operating, selling and distribution, investing and financing expenses (Oluoch, 2014).

From the balance sheet point of view, financial performance is referred to as return performance. It shows the productivity of the various resources invested in the business and their corresponding return on investment (Oluoch, 2014). Accordingly, performance is evaluated by relating the profit of the business to assets and capital invested in the business. This interrelationship yields performance metrics such as return on assets (ROA), return of equity (ROE) and return on investment (ROI).

The last perspective of financial performance using the financial statements is the cash flow statement perspective (Oluoch, 2014). In this view, profits of the business can be used to show financial adaptability and sustainability by relating them to the cash flows that are generated by a business. This informs the earnings quality of the reported financial profits and their ability to convert reported accrued earnings into actual cash flows. Such measures as earnings to cash flow ratio and earnings to working capital ratio are used to evaluate financial performance from a cash flow perspective.

Outside of the financial statements and the reported financial performance, corporate performance has often times also been looked at from the view of the stock market performance. When applying stock market values as a measure of performance, one is interested in analyzing the change in market value. Firm performance is measured over time by using the average stock market change per year. This value is usually obtained by calculating the yearly change in stock price. Baker and Martin (2011) aver that

accounting systems provide a source of information to businesses operating in any industry for use in the measurement of financial performance. It is crucial therefore that the accounting decisions of manufacturing firms in the building and construction sector supply complete and relevant financial information needed to improve economic decisions made by entrepreneurs. The ability of the firms to continue to cover risk in the economy hinges on their capacity to create profit or value for their shareholders.

Zada et al. (2019) indicate that financial performance can be measured in terms of profitability, liquidity, solvency, financial efficiency and repayment capacity. Profitability is the measures of the profit generated by a firm through the use of its productive assets; liquidity measures the ability of a firm to meet its obligations when they fall due; solvency measures a firm ability to pay all its financial obligations if all of its assets are sold. When accounting information is used, accounting ratios are employed. Among the common accounting ratios used to measure profitability is return on assets (ROA). Return on assets is an indicator of how profitable a company is relative to its total assets. It gives an idea as to how efficient management is at using its assets to generate earnings. It is calculated by dividing a company's annual earnings by its total assets and it is shown as a percentage (Baños-Caballero et al., 2012). According to Kasiran, Mohamad and Chin (2016), the goal of financial management is to maximize the wealth of the owners of the firm. The goal of the firm is to maximize its value to its shareholders which is initially through improved financial performance and return on equity.

1.1.3 Asset and Liability Management and Financial Performance

Asset and liability management directly contribute to the financial performance of any company. Ojera (2018) states that for a business firm to be able to sustain its business operations and meet its goals and objectives it must manage its have effective and prudent financial management practices especially asset and liability management practices. Financial management practices in general and asset and liability management practices in particular help to improve the profitability position of business organizations

with the help of strong financial control devices such as budgetary control and financial analysis (Ullah & Bagh, 2019).

Asset management decisions and practices are critical to the success of any firm. Arasa and Waititu (2014) observe that investment decisions are vital to a firm's financial wellbeing and are among the most important decisions that owners or managers of a firm must make. Their rationale for that belief is that capital budgeting decision often involves significant capital outlay to acquire non-current assets. They further observe that the use of sophisticated asset mix portfolio decisions for optimal capital assets and liquid assets portfolio mix are bound to have a profound positive influence on the financial performance of a business given the risk-return implications of the assets' matrix.

Better performance of the assets through improved measurement and accountability can be achieved through Risk Based Supervision RBS). This is an asset management practice that can enhance the risk-return tradeoff outcomes of the assets on the balance sheet of a business entity. Risk based supervision helps reveal the sources of success and failures in regulatory decision making and evaluation can feed back into improvements to future decisions (Pandey, 2010). RBS ensures more information is required to make decisions and hence better decisions are achieved based on more accurate and complete assessment of its consequences (Pandey, 2010). Adoption of RBS therefore, is expected to have a positive impact on the financial performance of any industry including the building and construction industry.

Asset and liability management has its roots in the financial sector especially the mismatch risk associated the assets of banks that are often long term and the liabilities that are mostly customer deposits and therefore short term (Gitman & Zutter, 2019). The risk implications from this analysis affect the short term and long term survival of the financial institutions. The implications can equally apply on other sectors like the building and construction sector because of the need to build a sustainable portfolio of assets and the corresponding financing liabilities.

The emerging empirical gap with respect to how asset and liability management affect financial performance can be traced to numerous studies and experiences from a global, regional and even contextual perspectives. Starting from a global perspective, in Virginia, USA, Atic (2015) highlights that many business owners do not engage themselves in financial matters because they do not have enough knowledge about recording transactions, preparation and analysis of financial statements. Sometimes they get deeply engrossed in other aspects of business like managing people, sales purchasing and production to have any interest in carefully managing finances. Such entrepreneurs end up relying on their accountants to run the financial side of their business. Otherwise, they decide to do the management themselves making the business vulnerable to collapse. This calls for decisive actions with respect to the practices adopted for the management of assets and liabilities of a business entity.

In India, Gitman (2014) highlighted that other than application of management principles to financial resources, financial management deals with liability financing decisions and asset management. Liability financing decisions relate to whether a firm needs financing and how the financing will be done. Financing is usually long term, medium term and short term. Financial management is about identifying various sources of finance and how much needs to be raised from each of the sources. The sourcing will depend on the type of source, period of financing, cost of financing and the expected returns. In Sri Lanka, Yogendrarajah, Kengatharan, and Suganya (2017) highlights that efficient financial management decisions are essential for small and medium enterprises to reach growth stage of the firm as it has major effect on performance.

Gamage (2014) emphasized that policy makers, practitioners and researchers in all relevant institution shave a huge responsibility to grow manufacturing businesses in order to become a large-scale export firms which is essential for economic development in Sri Lanka. In Indonesia, Nurlaela, Mursito, Kustiyah, Istiqomah and Hartono (2019) evaluated the interrelationship between asset management and financial performance using asset turnover as the indicator of asset management. The study was based on the fast moving consumer goods industry. It was based on a 3- year time framework

covering the period 2016 through 2018. The quantitative research used regression analysis asset management both liquid assets and total assets had a positive effect on financial performance of these companies as listed on the Indonesia Stock Exchange.

Butt, Hunjra and Rehman (2013) recognized that the financial management system is necessary to ensure that the manufacturing firm's economic resources are used effectively and efficiently in search of its goals. This is with respect of ensuring a balance off of assets and liabilities available for operations and funding of the business since they have implications on profit maximization. To support this argument, Butt, Hunjra and Rehman (2013) in India noted that the financially well-managed firms are operationally efficient. They focus on optimization of asset and liability management in the context of risk and return trading-off. The ability of businesses to develop, grow, sustain and strengthen themselves is heavily determined by their capacity to access and manage finance available financial resources (assets both current and non-current) and the way the resources are financed (liabilities both short term and long term). Inefficiencies in financial management decisions particularly management of assets and liabilities result in poor financial performance and eventually lead to failure of businesses (Butt, Hunjra & Rehman, 2013).

Karunanada and Jeyamaha (2018) expressed their view that poor record-keeping, inefficient use of accounting information to support their financial decision making and the low quality and reliability of financial data are part of the main problems in financial management concerns of firms particularly with respect to the management of assets on one side of the business balance sheet and liabilities on the other side. For many small businesses in Sri-Lanka, Karunanada and Jeyamaha (2018) expressed their view that poor record-keeping, inefficient use of accounting information to support their financial decision making and the low quality and reliability of financial data are part of the main problems in financial management concerns. They further noted that working capital management is a key component of financial management. Working capital management consists of managing working capital components; including cash, receivables, payables

and inventory management in businesses and working capital policy used to maintain level of investment in current assets for attaining their targeted sales

While studying SMEs in Australia, Meredith (2016) indicated financial management practices are central to the success of any small business. Meredith (2016) suggested that optimum application and commitment towards financial management practices geared towards optimizing returns and minimizing risks associated with management of assets and liabilities result in an increased firm's performance. Kasiran, Mohamad and Chin (2016) in Malaysia established that poor working capital management leads to poor performances measured using three indexes named, performance index of working capital management, utilization index of working capital management, and efficiency index of working capital management.

In Germany, Czarnitzki and Hottenrott (2017) in a study to examine the relation between working capital management and profitability established that optimal working capital levels (optimal levels of current assets and current liabilities) help to maximize profitability in businesses. In that regard, it is key for businesses to establish their optimal working capital level. Thevaruban (2016) in Thailand indicated that Small and medium enterprises are usually operated using capital provided by their owners, venture capitalists and angel investors as they are unable to use external fund with higher cost of capital in the early stages. The study further concluded that small scale industries in Thailand are difficult to get credit from external parties because the cash inflow and savings of the business in the small-scale sector is very low and this exposes them to unfavourable circumstances with respect to management of assets and liabilities.

On long term asset investment appraisal and management, Graham and Harvey (2014) in Canada and USA suggested that capital budgeting directed at planning for long term assets should be practiced more by a smaller firm than larger organizations because of the lack of access to the public markets for funding. Similarly, Graham and Harvey (2014) established that the present value techniques had been used by most of the samples firms for evaluating new investments in long term assets. However, when

choosing on long term asset investment source, the firms emphasize more on size of the company as the main indicator influencing the company's choice.

Whenever a firm focuses on the maximization of shareholder wealth, it is critical to always get proper care of its liabilities and asset mix (McConnel & Servaes, 2016). Asset investment decision of the company shifts its effect on share prices through financial performance and profitability. Thus, the current contribution of financial performance to firm's future earnings performance is quite evident from literature. It is in the context of this that firms must be careful in the manner in which they carry out financial reporting because the quality of financial information has a direct bearing on the quality of decisions that are made by managers with respect to management of assets and management of liabilities and ultimately the current and future financial performance of the concerned business entities. McConnel and Servaes (2016) indicated that proper financial reporting lead to more effective and efficient management of businesses and significantly improve their prospects. Enhancing financial reporting decisions helps businesses to grow in employment terms and progress throughout the stages of a business life-cycle model.

Literature is also abound from a regional perspective from countries in Africa. According to Ssekajugo (2013) small and medium size manufacturing firms in the Uganda are facing many types of challenges in terms of management of finances, management of assets, the financing through current liabilities and their general financial performance. But major reason to failure of manufacturing firms is running out of cash and other liquid current assets due to the poor management of finances in general and liabilities in particular. Firms of that size have difficulties accessing main stream finances in the capital markets as well as short term finances through the regular procurement process. This has led to a mismatch between assets and liabilities and hampered the growth of small and medium size manufacturing firms in that country (Ssekajugo, 2013).

Inefficient working capital management practices among business was found to hurt businesses financial performance and thus the sustainability of the businesses in South Africa (Masocha & Dzomonda, 2016). The study indicates that firms fail for proper matching of assets and liabilities in the context of the risks, returns and related costs leading to high financing and opportunity costs of holding excessive working capital on one hand and operational problems of inadequate working capital on the other hand.

In Nigeria Ezeagba (2017) while analyzing financial reporting in businesses using time series data found that inadequate accounting books and records, manpower and accounting system are considered as the challenges facing businesses in preparation and presentation of financial reports and that lead to financial information that is less than reliable in the process of managing assets and liabilities. Ezeagba (2017) explain that long tern asset investment appraisal, in the process of fixed assets management, was one of the important areas of financial management practices that relied on the quality of financial reporting. There were a number of apprehensions in investment appraisal; the method of appraisal and objectives and constraints in project selection arising from variations in the quality of financial reporting.

Still in Nigeria, Ogbeifun and Akinola (2018) investigated the influence of asset and liability management practices among commercial banks in Nigeria, which in the regulatory framework, they are also referred to as money banks. They aimed to find out the best practices in the administration of liabilities and assets within the Nigerian economy which is one of the strongest economies in Africa. The study emphasized on two theories the portfolio theory and the liability management theory both of which are closely intertwined with the asset and liability management practices. Relying on annual reports and the statistical bulletins by the Central bank of Nigeria, secondary data was collected for the study. Their findings indicated that assets are positively associated with profitability of banks and same applied to the asset and liability management and bank performance.

In Ghana, Galagan (2017) highlighted that it is imperative that in the corporate sector, main focus for overcoming the financial concerns be placed on corporate long term liability management and restructuring. One of the important sources of financing in corporate firms is the use of debt. Galagan (2017) confirmed this proposition by indicating that high cost firms using the debt and other long term liabilities need to exploit the interest tax shield in debt financing but need to be careful to avoid over-exposure to the risk of financial distress and business failure. The practices adopted in management of debt and long term liabilities have far reaching consequences on the efficiency, risk profile and performance of the affected companies.

In South Africa, Fatoki (2012) established that most organizations do not engage in financial planning and control, financial analysis and long term asset investment appraisal. For financial reporting information, most new micro-enterprises keep certain accounting books such as sales book and purchases book but do not keep other books indicating a mixed result, the the quality of financial reporting for such enterprises is often poor. This eventually influences performances of such organizations. To improve financial management decisions surrounding management of assets and management of liabilities, organizations should include in financial management practices such as training of the employees.

Ojera (2018)Another study conducted in five areas of Africa (Northern Africa, Eastern Africa, Central Africa Western Africa and Southern Africa) found out that pre-colonial indigenous African financial management features are prevalent in the regions, that is, use of trade finance, trade credit management, investment management and accounting. While there is also evidence of modification of Western financial management decisions to suit African contexts, it is on the whole scarce. This is suggestive of the fact that they were in existence in the first instance. The clear conclusion is that many indigenous African financial management decisions pre-dated and foreshadowed their Western counterparts. Yet, it is confounding that this has been largely lost sight of, and both scholars and financial management practitioners depict the former as inferior. There is clearly a need to remedy this situation.

Another study done in South Africa to establish the use of financial management practices by Small, Medium and Micro Enterprises stresses the point that financial management decisions in Africa to be under-developed. It was found that more than half the SMEs examined use external accounting staff to prepare accounting reports and more than 60% rely on external accounting staff to interpret and use accounting information. A majority of the SME owners were found to lack interpretation skills and an awareness of how to use information from financial statements. This clearly points out that there is a gap that needs to be filled for all businesses in Africa to be competitive in a global front (Brijlal, Enow & Isaacs, 2014).

Related studies have also been done in Kenya as well. Mwende, Muturi and Njeru (2019) conducted a research on financial management practices of micro and small enterprises in Kenya a case of Kibera and found out that liability and financing management practices are an important factor in the performance of SMEs. Siba (2012) did a study on the relationship between liability risk management practices and financial performance of commercial banks in Kenya. The research found out that bank managers are financial risk averse and avoid uncertain business ventures. Thus, their performance relies on decisions that they deem not risky.

While focusing on cash flow management only, Ndungu and Oluoch (2016) evaluated their influence on market performance of public construction companies in Kenya. For a seven year period, the study evaluated how operating, free, financing and investing cash flow management affected market returns of this companies using the modified capital asset pricing model (CAPM) based on 70 semi-annual observations of the five public companies that market segment. The findings revealed that whereas the cash flows from operations are positively associated with market returns, those from investing, financing as well as free cash flows negatively affected market returns. In a nutshell, management of cash flows have an effect of the market performance of public construction companies in Kenya.

Asset and liability management practices are popular in the financial sector especially among the commercial banks, pension funds and insurance companies. In the Banking Sector in Kenya, Simatwa (2015) sought to establish how asset and liability management among commercial banks in Kenya affect their financial performance. The study was carried out over a five year period covering 2010 through 2014. In the findings reported in this study, it is found that the quality of assets held by commercial banks in Kenya are inversely related to the financial performance of banks as indicated by return on equity. On the flip side, the study revealed that capital adequacy had no effect on the return on equity of the commercial banks.

Nyongesa (2011) looked at the relationship between financial performance and financial management of insurance companies in Kenya. The study revealed that there was a consistent, significant positive association between financial management decisions and financial performance. However, the study did not establish reasons for this correlation and neither did it narrow down to the specifics of asset and liability management. Mabonga and Kimani (2017) sought to review selected financial management decisions adopted by small enterprises in Kenya. The study found out that 66% of the respondents did not undertake cash budgeting, 70% of the business owners kept surplus cash with themselves and over 56% of the business owners were handling cash personally as the security to their money.

Still in the Kenyan banking sector, Anjichi (2014) sought to establish the consequences of Asset and Liability management on the Banks' financial performance over a ten year period spanning 2004 to 2013. Using the CAMEL (capital adequacy, asset quality, management efficiency, earnings and liquidity), the study sought to show how risks associated with asset liability management affect the financial performance of banks in Kenya. The study using the descriptive survey, was based on a population of all the 43 banks in Kenya that operated at that time as regulated by the Central Bank of Kenya. The findings reveal that all the CAMEL factors positively influenced financial performance of the commercial banks in Kenya.

Kiita (2013) indicated that on overall, financial performance is positively affected by the financial management practices that include asset and liability management practices. In that regard, to enhance organizational performance, financial management practices revolving around decisions like capital structure decision, dividend policy, investment appraisal techniques, working capital management and financial performance assessment should be well managed in all organizations disregarding its level of sophistication. Nthenge and Ringera (2017) highlighted that financial management with respect to management of assets and management of liabilities is an important element of the management of any business. In that, regard, they highlighted that working capital management; investment decisions and financial decisions influence financial performance positively.

Waweru and Ngugi (2014) while studying the influence of financial management decisions on the performance of Micro and Small Enterprises in Kenya highlighted that investing can be described as the redirection of resources from being consumed today to creating benefits in the future and that Development of an effective business support system is also a key condition for the success of investment capacity building Further they established that investing requires practices that revolve around business support agencies which have a demonstrated capability of penetrating the MSE sector. Also, according to Waweru and Ngugi (2014) financial innovations surrounding assets and liabilities influence the financial performance of Micro and Small Enterprises in Kenya to a very great extent and that the reason for innovation in an organization is to make profit. Finally, they indicated that there is a statistically significant relationship between working capital management practices and firm performance and that there is need for a tradeoff between receivables and holding inventory if the firm is to attain the required profits.

Kinyariro, Gesami and Kirimi (2017) established that asset and liability management decisions as encapsulated within financial management decisions significantly influence the financial stability of football clubs. The study also indicated that with a well-articulated financial management structure football clubs would improve their

performance not only on the pitch but also on the financial perspective of the clubs. Mathenge and Muturi (2017) established that annual budget adherence, financial monitoring, investment decision and financial planning have a significance effect on the financial performance of public universities in Kenya. Investment decision had the highest effect while financial planning being the least. Given that all the variables had a positive effect on financial performance, the study concluded that they are a key determinant to the progress of the universities.

1.1.4 Firms in the Building and Construction Sector in Kenya

The Competition Authority of Kenya, CAK (2017) notes that Kenya is in this period undergoing rapid expansion in the building and construction sector. According to CAK (2017), the building and construction boom is attributed to the rapid growth in Kenyan population from 39 million people in 2009 to a figure that has topped 50 million in 2021. In addition, the construction sector had hitherto been underdeveloped and it the boom is an inevitable consequence of the increasing modernization of the sector. CAK (2017) further notes that in 2015, the sector delivered a massive growth of 13.6% with respected to value addition. The growth however declined to 9.2% in the year 2016. Within Nairobi County, CAK (2017) shows that new private buildings grew from 70.9 billion shillings in 2015 to 76.2 billion in the subsequent year. In a summary, CAK (2017) notes that the construction sector in Kenya is regulated by the National Construction Authority (NCA).

A well-developed and evolved cement industry is a boon for economic development as it provides long- term funds for infrastructure development of every economy (Charumathi, 2012). In the context of business entities, accounting information is important as it can help the firms manage their short-term financial problems in critical areas like costing, expenditure and cash flow, by providing information to support monitoring and control. At all levels of organizations, budgets are getting tighter and there is an increased need for financial management initiatives to directly contribute to

providing timely, accurate, reliable financial information to support management decisions (Seru & Sufi, 2021).

1.2 Statement of the Problem

Sound financial performance of business organizations is one of the overriding objectives of corporate organizations. This applies to all types of businesses for which profit is a performance motive. Good financial performance shows optimal deployment of human capital, capital assets, financial resources and other organizational resources in pushing towards achieving corporate goals. In any established sector of the economy or the entire economy at large, sound financial performance of businesses helps fuel economic growth and stability and thereby lead to such economic benefits as high employment, financially deepened financial markets, high economic productivity, favourable terms of trade and possibility of foreign exchange income from export. Given all these advantages, financial performance is always a pursuit of business organizations including the construction sector in Kenya.

Despite the unprecedented growth rates in the building and construction sector in Kenya, fueled by the economic policy of the government and the rapidly growing populations, the financial performance of firms in the construction industry has been erratic with mixed results from the industry ranging from negative profitability, flat performance to very high financial performance. In addition to the erratic profitability, evidence from the industry reveals that the growth last part of the second decade of this millennium has been decreasing. The building and construction sector registered a slower growth rate of 5.9% in 2019, 6.3 percent in 2018 and 8.5 per cent in 2017 the previous year (Kenya National Bureau of Statistics, 2019).

The emerging research dilemma is that it is not clear if the strategies and practices of the building and construction industry manufacturing companies put in place for asset and liability management have any effect on the financial performance of these companies. The research dilemma is both theoretical, empirical and conceptual. From a theoretical

angle the various theories have varying conclusions as to how asset and liability management practices affect financial performance. Whereas the portfolio theory of Markowtz (1962) recommend optimal asset structuring to minimize risk and therefore boost performance, the agency theory of Jensen and Meckling (1976) on the other hand fail to pinpoint a clear association between the asset and liability management and financial performance and speculate that managers may undertake asset and liability management practices than maximize private benefits at the expense of the overall financial performance of the organization.

To compound the dilemma, there is a conceptual problem that needs to be interrogated. That holding the agency conflict as constant, it is not clear if the relationship between asset and liability management is moderated by some firm specific characteristics especially the quality of financial reporting. Theoretically it is expected that sound financial management practices in general and asset and liability management in particular should be based on high quality financial information. Such information needs to be relevant, reliable, comparable and understandable. If true, high quality financial information should lead to superior asset and liability management practices and thereby boost financial performance. There is need to establish the quality of financial reporting in the sector and ascertain how it influences the relationship between the asset and liability management and financial performance.

There is also a market performance problem that compounds the research problem. That despite the growth in the building and construction sector which has enhanced the demand for construction materials, manufacturing firms in the building and construction sector in Kenya continue to experience erratic financial performance. There have been various studies that have tried to explain the effect of financial management on performance of manufacturing companies. But these have been generic without focusing and the asset and liability management yet the industry has a significant investment in both current and noncurrent assets and liabilities. Kengatharan and Suganya (2017) for instance in their study on the financial management decisions and performance of medium enterprises in Sri Lanka established that working capital management decisions

and financial reporting decisions had a positive influence on financial performance. The study fails to focus on the actual asset and liability management structures needed to boost financial performance.

Fatoki (2012), on the other hand, in the study on the relationship between financial management decisions and financial performance of listed firms in Nigeria using primary data failed to consider working capital management and financing decisions. The study not only leaves out long term asset management, but it also had contradicting findings with the study by Yogendrarajah, Kengatharan and Suganya (2017) since it established that financial reporting decisions did not have any influence on financial performance.

To compound the problem, it is not clear how the effect of management of assets and liabilities is moderated by the quality of financial reporting given that managers and investors base their financial management decisions in general and those relating to assets and liabilities in particular on the available financial information of the concerned businesses. Looked at critically, the prevailing empirical research findings provide a dilemma that makes it necessary to evaluate how asset and liability management affects financial performance especially in the context of Kenyan regulatory environment focusing on building and construction firms.

1.3 Objectives of the Study

The objectives are pursued at two levels that is the general objectives and the specific objectives as specified in the ensuing sub-sections.

1.3.1 General Objective

The general objective of the study is to establish the influence of asset and liability management moderated by quality of financial reporting on financial performance of manufacturing firms in the building and construction sector in Kenya

1.3.2 Specific Objectives of the Study

The study was conducted based on the following specific objectives:-

i.   To establish the influence of current assets management on financial performance of manufacturing firms in the building and construction sector in Kenya

ii. To evaluate the influence of non-current asset management on financial performance of manufacturing firms in the building and construction sector in Kenya

iii. To ascertain the influence of current liability management on financial performance of manufacturing firms in the building and construction sector in Kenya

iv. To assess the influence of long term liability management on financial performance of manufacturing firms in the building and construction sector in Kenya

v.   To determine the moderating effect of the quality of financial reporting on the influence of asset and liability management on financial performance of manufacturing firms in the building and construction sector in Kenya.

1.4 Research Hypothesis

H_{01}: Current assets management has no Statistically significant influence on financial performance of manufacturing firms in the building and construction sector in Kenya

H_{02}: Non-current asset management has no Statistically significant influence on financial performance of manufacturing firms in the building and construction sector in Kenya

H_{03}: Current liability management has no Statistically significant influence on financial performance of manufacturing firms in the building and construction

sector in Kenya

H04: long term liability management has no Statistically significant influence on financial performance of manufacturing firms in the building and construction sector in Kenya

H_{05}: The quality of financial reporting has no Statistically significant moderating effect on the influence of asset and liability management on financial performance of manufacturing firms in the building and construction sector in Kenya.

1.5 Significance of the Study

The findings of study contributes to the knowledge of financial performance of manufacturing firms in the building and construction sector in Kenya. The findings of financial performance of manufacturing firms in the building and construction sector in Kenya in this study expands the literature of financial management decisions in general (particularly with respect to management of assets, management of liabilities and the quality of financial reporting) and especially on financial performance of manufacturing firms in the building and construction sector in Kenya.

The findings of the study offer valuable contributions from both a theoretical and practical standpoint where it contributes to the general understanding of the role of management of assets and liabilities of manufacturing firms in the building and construction sector in Kenya. Numerous stakeholders are bound to benefit from the findings of the study.

For managers of manufacturing firms in the building and construction sector, the findings are likely to be useful for improving financial performance and profitability by obtaining tips on the attributes of management of assets and liabilities as well as financial reporting that affect the efficiency and effectiveness of operations and financial performance. They are likely to use the findings of the study to align asset and liability management practices in their financial management policy. If well instituted, this can lead to optimization of the risks and return tradeoffs that are associated with

management of assets and liabilities and thereby align to financial performance of the organization.

With respect to investors, the findings of this study are likely to assist investors assess a firm's financial soundness for possible consideration to invest. This study is also likely to be useful to investors in enabling them to compare the performance of individual firms operating under the building and construction sector. When weighted against asset and liability management practices and the quality of financial reporting and their joint influence on financial performance, investors are likely to rely on the findings in informing their buy, hold and sale decisions of investments in this segment of the economy.

For policy makers, the findings of this research study are likely to be of great importance to Government of Kenya as it provides information on the role of management of assets, management of liabilities and quality of financial reporting on the financial performance of manufacturing firms in the building and construction sector in Kenya. Therefore, policymakers in both the national government and county government are likely to benefit a great deal, as the findings provide information that can be used to formulate sound financial management policies with respect to assets and liabilities management. This is in addition to regulators like the National Construction Authority and the Competition Authority of Kenya. They are likely to benefit from the findings of the study in recommending appropriate financial reporting practices as well as optimal asset and liability management practices.

As for researchers and academicians, this study forms a basis of further research on finance theories focusing on other sectors of firms listed and unlisted in the Nairobi Securities Exchange. The academic players are likely to benefit conceptually, theoretically, empirically and methodologically. From a conceptual perspective, the moderating effect of quality of financial reporting on the influence of asset and liability management comes out explicitly. This adds onto the growing body of knowledge that

shows the direct relationship between financial management of assets and liabilities and financial performance of a varied range of business industries.

Empirically, the findings are expected to add onto the large volume of asset and liability management literature that has hitherto exclusively focused on the financial sector especially commercial banks, pension funds and insurance companies. The risk-return dynamics associated with asset and liability management practices in the construction sector are bound to become clear from the findings of this study. Theoretically, the findings help move extant literature towards consolidating the most robust theory that explains how asset and liability management practices influence the financial performance of business entities in general and those in the construction sector in particular.

1.6 Scope of the Study

This study sought to establish the influence of asset and liability management on financial performance of manufacturing firms in the building and construction sector in Kenya. The study covered the whole of Kenya wherever the manufacturing firms in the building and construction sector are located. The target population was 44 large scale firms in the cement, steel, paints, roofing and tiles sectors listed by the Kenya Association of Manufacturers (KAM). Data with respect to asset and liability management structures as well as financial reporting and quality of financial reporting were collected on a panel basis using a data collection sheet. The study period covered five years of 2016 to 2020. This provided an observation of 220 firm year observations for the independent variables, the moderating variable as well as the dependent variable.

Before the year 2016 the financial statements of the manufacturing firms in the building and construction sector reported adequate firm growth, increased assets and employee retention. However, during the current period of study the firms are experiencing financial distress with employee retrenchment and disposal of capital assets. The firms are also experiencing high debt ratios. Data was obtained for the forty four major

manufacturing firms in the building and construction sector in terms availability of data and 31st December reporting date. Specifically, the study sought to establish the influence of current asset management, non-current asset management, current liability management and long term liability management decisions on financial performance of manufacturing firms in the building and construction sector in Kenya. Also, the study sought to determine the moderating effect of quality of financial reporting on the relationship between asset and liability management and financial performance of manufacturing firms in the building and construction sector in Kenya.

1.6.1 Limitations of the Study

The study was adequate in establishing how asset and liability management affected the performance of manufacturing companies in the building and construction sector and how such relationship is moderated by the quality of financial reporting. The study was however faced by a number of limitations. First, the study focused purely on the manufacturing companies in the building and construction sector in Kenya. Accordingly, the findings are specific to this sector and do not include other critical sectors of the economy. This however was not deemed too limiting and the findings are generalizable to similar homogenous segments of the economy.

The design is limited to a causal panel survey. This was necessary in order to use the secondary data collected from financial statements data as indicators of the structures that are used to manage assets and liabilities. This was however deemed not too limiting because the diagnostic tests necessary for panel regression were used and all the necessary data adjustments made. Further, the performance data was collected over a long period of time of five years which was adequate to smooth out the fluctuations in earnings as opposed to single year performance information.

Thirdly, the study was limited to Kenya as a geographical region. This means that the findings are generalizable for the country but may not be done across the border. It should however be noted that Kenya has unique economic and regulatory fundamentals,

A country with similar fundamentals can have the findings being generalizable to such jurisdiction. In any case, the findings being unique to Kenya can form a basis of comparing and contrasting with empirical findings from other regulatory regimes that are distinctly different so as to broaden the knowledge scope.

Finally, the study was limited in conceptual scope but focusing on two categories of asset management (current assets and non-current assets) and two categories of liability management (current liabilities and long term liabilities). This failed to categorize into further conceptualizations like tangible assets and intangible assets. This was however deemed unnecessary because both of these two still fall among assets hence using them would introduce the problem of multicollinearity. As for the liabilities, equity was not considered in the analysis given the extensive literature on capital structure that exist in extant empirical literature

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

In this chapter is carried out appraisal of theoretical, conceptual and empirical literature associated with asset and liability management on one hand and the performance of business entities in general and manufacturing companies in particular. In theoretical literature are appraised the prevailing theories that try to explain how asset and liability management are associated with financial performance of business entities. In addition to the above, there are theories that explain how quality of financial reporting is associated with financial performance of business entities. The appraisal involves evaluating the propositions and assumptions while pointing out the theoretical contribution and the limitations of the theories in as far as fully understanding the area is concerned. In the conceptual section, the literature evaluates the concepts that inform the identification of the study variables ranging from the independent, moderating to the dependent variable being financial performance. Finally is evaluated the empirical extant literature with respect to the contribution and empirical limitations of the studies with respect to asset and liability management on one hand and financial performance on the other. After the appraisal of literature follows the critique, identification of the literature gaps and finally, a summary of the theoretical, conceptual and empirical conclusions arising from the study.

2.2 Theoretical Literature Review

Theoretical literature provides a set of plausible explanations of the what, how and why of some phenomena (Fisher, 2017). Accordingly in this section are presented the most plausible explanations of the relationship between asset and liability management on one hand and financial performance on the hand. In addition are possible explanations of

how the quality of financial information impacts or is related to business financial performance. There are presented six theories being the agency theory of Jensen and Meckling (1976), the risk-return trade-off theory of Gitman (1974), the functional fixation theory of Hand (1990), the capital structure irrelevance theory of Modigliani and Miller (1958), the modern portfolio theory of Markowitz (1952) and the asset finance matching theory of Sagan (1955) not in any order of prioritization. Five are related to asset and liability management while one, the functional fixation theory, is associated with the quality of financial reporting and the attendant financial management decisions.

2.2.1 Agency Theory

Agency theory is a very versatile postulation that was proposed by Jensen and Meckling (1976) and is a powerful theory in corporate financial management and governance. This is the main theory of the study and the concept arose out of the need for separation of ownership and control, whereby the principal (shareholder) appoints an agent (manager) to act on their behalf. This contractual relationship involves the principal (s) engaging the agent to perform some service with delegated decision-making authority. Agents are engaged in the daily operation of organizations thus have undue information advantages. This results in information asymmetry in the agency relationship. The principal- agent relationship results in monitoring costs employed by principals to reduce the opportunistic behavior and expropriation by managers (Jensen & Meckling, 1976).

In the context of this study, the management of assets and liabilities is left with the managers (agents) who are expected to act in the best interests of the shareholders (principals) to boost and if possible maximize the financial performance of the firms under consideration. The agency conflict however implies that the managers may instead undertake asset and liability management decisions that may be contrary to the profit and shareholder wealth maximization agenda, and may instead be geared towards maximizing managerial private welfare. In addition, they may in line with Jensen and Meckling (1976) shy away from financially sound working capital decisions that may

put their managerial decisions at risk. This may actually imply that asset and liability management decisions may end up being inversely related to corporate financial performance in the regimes with high levels of agency conflicts and vice versa.

Agency theory is the most dominant theoretical underpinning documented in corporate governance research. Conflict of interest arising out of separation of ownership and control is minimized by entrenching corporate governance mechanisms. Boards have also been found to be more independent when they comprise a larger proportion of outside directors (Vernimmen, Quiry, & Le Fur, 2022). A number of studies from an agency theory perspective on outside directors support the beneficial monitoring and advisory function to firm shareholders. Research has shown that appointing outside directors' results in better performance for (Vernimmen, Quiry, & Le Fur, 2022). Investors utilize the managers' services to manage their investments and create superior profits and in turn managers are compensated. According to Vernimmen, Quiry and Le Fur, 2022), self - interests by managers results in entrenchment thereby creating the agency problem.

Researchers have criticized the limitations of the agency theory to explain the inherent principal – agent interactions as relates to sociological mechanisms (Seru & Suri, 2021). The theory for instance identifies shareholders as the only interest group in the agency relationship, and does not provide for the interests of other stakeholders. As a result, the theory of agency concerns the principal- agent relationship in this study where the board members are agents while the principals are the shareholders. Agency theory informs quality of financial reporting in that there exists an agency relationship which brings separation of ownership and control, whereby the principal (shareholder) appoints an agent (manager) to act on their behalf. This contractual relationship involves the principal (s) engaging the agent to perform some service with delegated decision-making authority and therefore financial reporting is important to control creative accounting. It has been critiqued on the basis that it pays a singular attention to the agent side of the relationship between agents and principals and lays the entire blame of the relationship failure to the agent yet it is conceivable that the problems could equally emerge from the

side of the principals. It is possible that the inability to achieve the business objectives could be engineered by the principles.

The agency theory of Jensen and Meckling (1976) fails to pinpoint a clear association between the current asset structure and financial performance. Its theoretical assumptions imply that managerial self-interests and their clash with owners' wealth maximization interests may produce an asset structure that is wide and varied in line with how well these interests are aligned. The effect is that managerial tendency to be influenced by private interests may make poor profit management decisions like earnings management which ultimately would influence how asset structure relates to financial performance. That since managers are in charge of both asset structuring and financial performance reporting, they can influence either or both to their private advantage making it difficult to tell how the two relate.

2.2.2 Risk-Return Trade Off Theory

Trade-off theory is a generic theory in finance that can be used to explain any situation where returns can be sacrificed because of risks and vice versa. As applies to management of assets and liabilities, the modified trade-off theory can be traced to Gitman (1974). This explains both asset management and liability management in terms of the opportunity costs of balancing off long term assets and current assets on one hand and current liabilities and long term liabilities on the other. Both have implications on risks and returns (profitability). The trade-off theory which argues that the way a firm structures its current assets and liquidity has an implications on the choice between sacrificing profitability at the expense of liquidity just the same way it strcutures its long term liabilities and current liabilities has risk and return implications (Gitman, 1974).

Excess current assets and the corresponding liquidity reduces the amount of resources available for generating returns given that current assets are largely non-return generating. In this theorization, a smart firm will only hold current assets for operations

and would therefore have very low current asset to total assets ratio. Such a firm would have enhanced profitability as explained by Gitman (1974).

This theory can also be looked at from the point of view of the liabilities and the related maturity structure. In that context, it explains the liability management side of the asset and liability management explored in this research. From the perspective of the liabilities, the theory is a derivative of the trade-off theory which in its initial form, is premised on the fact that a firm needs to balance debt and equity financing through a trade-off of the costs and benefits associated with these forms of financing given that debt is cheap but risky while equity is costly but less risky. The classical version of the theory looks at the tradeoff between tax benefit of debt and the costs of bankruptcy. It argues that firms will use debt as much as possible but watch out for any disadvantage that may arise as a result of a bankruptcy. It states that there is an advantage to financing with debt, that is the tax benefits of debt and that there is a cost of financing with debt that is the bankruptcy costs and the financial distress costs of debt

The marginal benefit of debt declines as debt increases, while the marginal cost increases, so that a firm that is optimizing its overall value will focus on this trade-off when choosing how much debt and equity to use for financing. Vernimmen, Quiry and Le Fur (2022) believe that debts payment decreases cash flows available for managers. But, on the other hand state that this decrease will reduce the opportunities of profitable investing. Thus, companies with less debt have more opportunities for investment and in comparison, with other active firms in industry, have more liquidity. Additional costs of debt include potential bankruptcy costs and agency costs associated with the monitoring of investments by bondholders.

The modified version of the theory focuses on debt financing and liquidity that compares the relative costs and benefits of long term liabilities and current liabilities. The model is called the trade-off theory of debt maturity and liquidity dealing with long term liabilities, current liabilities, current assets and non-current assets. According to this derivative theorization, the amount of long term debt and current liabilities (short term

debt) held by a firm is arrived at by balancing the risks and benefits of using short term liabilities and the same applies to the amount of current assets and fixed assets held given that current assets are largely non-return generating yet reduce the financial distress risk while fixed assets are return generating but costly (Gitman, 1974).

In trade-off postulation, short term loans portend cost advantages over long term debt but correspondingly involve higher refinancing and interest rate risks than the long term debt and therefore higher bankruptcy costs. The postulation is that there are two chief financial characteristics of associated with liability financing and that these are the level of financial flexibility and the magnitude of financial strength. In their model, they show that it is only firms that have a higher level of these two attributes that can exploit more short term debt as opposed to the long term debt in an environment with high term premiums (Vernimmen, Quiry & Le Fur, 2022).

The theory therefore attempts to build an optimum mix of short term liabilities and long term liabilities on one hand and current assets and non-current assets on the other that firms choose in order to maximize their shareholder welfare and achieve their objectives asserts that short term liabilities often have very low cost and in some cases like trade credit and expense accruals, a virtual zero cost (Vernimmen, Quiry & Le Fur, 2022). To add onto the cost advantage, the short term liabilities are very flexible and firms can swiftly increase the amounts of short term financing to meet the short term fast changing financing needs of a business. This eliminates the need of over-borrowing and therefore paying interest on unused funds as the case would apply to long term debt. They further assert that short term liabilities have a liquidity default premium in which the nominal interest rate of current liabilities is lower than that of long term liabilities. This could explain the affinity to exploit commercial papers for financing even permanent working capital (Seru & Sufi, 2021). In essence the default premium on current liabilities is mono-period while that on long term liabilities in multi-period.

Having evaluated the foregoing advantages of current liabilities in the financial structure of a firm, Seru and Sufi (2021) also provide the associated risks. These are the

refinancing risk and the interest rate risk. Short term debt usage requires more frequent future debt refinancing and this adds on to the cost of finance. Again, interest rates vary over short terms and when current liabilities are used in financing, the obvious consequence will be variations in cost of finance as compared to long term debt where a fixed rate could be locked in the contract for quite some while.

The conclusion that can be made is that whereas short term debt is preferable to long term debt financing, in practice however, firms do not operate with a 100% short term debt financing due to distress, bankruptcy and agency costs hence the need to match the costs and benefits. The extent a firm can rely on short term debt instead of long term debt in financing its assets and operations is a function of the debt market conditions and its size. Moreover, the liability and liquidity trade off theory predicts that there is a positive effect of finance flexibility and size of the short term debt prevalence. The same argument applies to the Gitman (1974) balancing tradeoff of liquidity against profitability arising from the benefits of holding current assets on a firm's balance sheet against the sacrificed profitability arising from lost income from having the return generating fixed assets.

Several studies have been done to check the validity of the debt maturity tradeoff theory. García-Teruel and Martínez-Solano (2007) for instance evaluated the risk return trade-off that is allied to the use of short term debt among Spanish small and medium size 11,533 firms over a 5 year period spanning 1997 through 2001. They found out that short term debt usage is more prevalent among firms that are financial financially, have enhanced financial flexibility and have high growth possibilities especially in the context where the interest expense differentia between the current and the long term liabilities is significant. They further showed that among the Spanish firms, small firms have a more pronounced level of short-term liabilities than their larger counterparts. Still is Spain, Díaz-Díaz, García-Teruel and Martínez-Solano (2016) find that organizations with a lot more long term debt exhibit low growth opportunities, higher asset maturity and also have a high level of leverage

In the UK, France and Germany, Antoniou, Guney and Paudyal (2006) evaluate the determinants of debt maturity structure. The study pursued the three countries owing to their varying financial and legal traditions to check if these could impact the liability maturity. They conclude that tye structure of debt used by firms is a function of the firm idiosyncratic conditions, the structure of a country's financial system and the corresponding institutional orientation.

Managers will prefer financing new investments by internal sources (i.e. retained earnings) first, if this source is not enough then managers seeks for external sources from debt as second and equity as last. Thus, according to the pecking order theory firms that are profitable and, therefore, generate high earnings to be retained are expected to use less debt in their capital structure than those do not generate high earnings, since they are able to finance their investment opportunities with retained earnings.

Trade-off theory implies that costs and benefits of alternate long term and short term debt financial sources are "traded off" until the marginal cost of long term debt equals the marginal cost of short term debt, yielding the optimal long term-short term liability structure, and maximizing the value of the firm. This theory informs liability management (both long term and short term) since managers are likely to decide whether to finance assets and operations short term or long term sources of debt finance.

This theory was criticized on the suggestion that if this theory was true, then firms ought to have much higher debt levels than we observe in reality. Due to allowable financial expenses against taxable income, it does not specify the effect of tax rate and leverage. This point of view seems to support hierarchal financing as opposed to trade-off considerations in the course of financing. This is in line with pecking order expectations where the financing by long term and short term liabilities is more in line with what is easily and conveniently more available to the business than opportunity cost considerations.

2.2.3 Modern Portfolio Theory

Approaching the management of assets from a portfolio diversification and risk management point of view, Markowtz (1952) portfolio theory would suggest that staggering optimally investments in a variety of current assets and non-current assets would reduce firm exposure to risk to the market risk level. This theory would mean that the more diversified the asset structure is in terms of the components of current, no-current, tangible and intangible assets, the lower the risk and therefore expected return.

This theory relates to the asset side of the asset and liability management within the organization. The theory incorporates an amalgamation of postulations whose foundation was set in 1952 by Markowitz (1952) in his paper on portfolio selection. It is in this respect that Harry Markowitz is considered to be the father of modern portfolio theory (Seru & Sufi, 2021).

Portfolio theory can be described as a combination of postulations attempting to explain how investors can benefit from investing in asset combinations as opposed to single asset investment strategies. The Markowitz (1952) postulation focused on the fact that holding assets in a portfolio (be they long term assets or current assets) is based on the need to maximize returns from those assets at every level or risk or rather to minimize the risk of holding the assets at every level of return. With this clarification from the Markowitz (1952) it was possible for investors to manage assets by coming up with an efficient frontier which took into account the risk minimization and return maximization dichotomy. This came to be known as the mean-variance rule (Seru & Sufi, 2021).

The theory was since boosted by incorporating the improvements from various other scholars on investment theory including Tobin (1958) who tried to solve the problem of portfolio selection by introducing a riskless assets and risky assets in the choice spectrum; Sharpe (1964) and Lintner (1965) who jointly developed an asset pricing model that indicate that the required rate of return on an asset held by an investor is a function of the risk free rate taken as the basic minimum required return and the risk

premium of holding that asset which is determined by the market beta risk indication and Fama (1969), Litzenberger and Kraus (1976) who modified the asset pricing model by introducing a three-moment generalized asset pricing approach.

This far in the evolution of portfolio theory, the emphasis was on single asset pricing and a single period. In the 1970s and 1980s, portfolio theory of asset management evolved into multi-period multi-asset theorizations often identified as dynamic asset pricing models. These include Merton (1973) intertemporal CAPM in which an asset is expected to earn a risk premium when there is an adverse turn in an investment opportunity set; consumption-oriented CAPM (Rubinsten, 1976; Breeden & Litzenburger, 1978 and Breeden, 1979) which make various assumptions return distribution from an asset for investors consumption which could be over a discrete time interval be normal (Rubinstein (1976); lognormal over a discrete time (Breeden and Litzeburger or where individual returns and optimal consumption in a continuous time adopt diffusion processes (Breeden, 1979); production-based CAPM of Cochrane (1991). Another significant contribution to modern portfolio theory is that of arbitrage pricing (Ross, 1976).

In a nutshell, modern portfolio theory explores how varying levels of risk-averse investors can construct optimal portfolios taking into consideration the trade- off between market risk and expected returns from a single asset to a dynamic view ranging from discrete time to continuous type and cutting across from national to international markets. The theory quantifies the benefits of diversification, and shows that out of a universe of risky assets, an efficient frontier of optimal portfolios can be constructed. Each portfolio on the efficient frontier offers the maximum possible expected return for a given level of risk and Investors hold one of the optimal portfolios on the efficient frontier as they adjust their total market risk by leveraging or de leveraging that portfolio with positions in the risk-free asset such as government bonds.

According to Elton, Gruber, Brown, and Goetzmann (2009), the assumption of Modern Portfolio Theory are that investors consider each investment alternative as being

represented by a probability distribution of expected returns over some holding period. Secondly investors maximize one-period expected utility and their utility curves demonstrate diminishing marginal utility of wealth. Thirdly investors estimate risk on basis of variability of expected returns. The other assumption is that investors base decisions solely on expected return and risk. Finally, investors prefer higher returns to lower risk and lower risk for the same level of return.

MPT provides a broad context for understanding the interactions of systematic risk and reward which has profoundly shaped how institutional portfolios are managed, and motivated the use of passive investment management strategies. Markowitz model is a single- period approach, which assumes that an investor has a given initial endowment to invest. The investment will be held for a specific length of time referred to as the investor's holding period. At the end of that period, the investor will liquidate his holdings and will either re-invest it or use it for his own consumption needs (or a combination of both) that's a fixed mix or a buy-and-hold strategy. Thus return (end of period accumulated wealth less starting period wealth) starting period wealth (Markowitz, 1952).

The modern portfolio theory demonstrates that organizations manage their businesses on a portfolio basis (Seru & Sufi, 2021). A case pointed out for the insurance sector is how businesses are segregated in terms of portfolio like general businesses, life insurance, specialist and composite insurance which are distinct strategic units or portfolio for insurance companies. It is therefore important for insurance companies to deploy prudent financial management decisions in order to instill control within the various portfolios with a target of maximizing returns on each portfolio. This theory is relevant to the study as diversification can be a form of financial management decisions. The concept of diversification is important when an investor is faced by several types of securities or investment opportunities.

Modern portfolio theory has made immense contributions in asset management finance theory and practice. It however it has a number of imitations. First, the theory is based

on a simple assumption that risk is defined by volatility which is measured either in terms of standard deviation or beta. Whereas this measure makes perfect sense, a better analysis would entail fundamental analysis of securities to determine their intrinsic characteristics (e.g. leverage, liquidity, long-term solvency, earnings trends, operational characteristics, profitability, etc) on which basis to make investment choices. This point is explicitly discussed by Nurlaela, Mursito, Kustiyah, Istiqomah and (2019).

Secondly, investors are assumed to be rational so that they prefer less risk for every promised level of returns. This implies that investors are averse to both upward and downward swings in the volatility. The reality is that whereas investors would want to avoid downward swings in portfolio returns, they may not be averse to upward swings that would add to their returns. This seems to be inconsistent with the logic of the theory. This has been hard to model in most modern portfolio theory models (Ndungu & Oluoch, 2016).

Again, there is no permanent correlation between risk (when defined as volatility) and return. High volatility does not give better results, nor does lower volatility give lesser results. It is noteworthy that volatility simply does not stay the same for any period of time and varies drastically from one time period to another. Stocks do not have a fixed volatility and hence it is absolutely impossible to use that factor to make meaningful changes to a portfolio unless you know what volatility is going to be; which is practically impossible (Seru & Sufi, 2021).

The assumptions on which portfolio theory are based are sometimes particularly limiting. The following counter-arguments can be made against these assumptions: That there are no transaction costs in buying and selling securities as indicated by Tobin (1958) is limited by the reality that transactions costs and taxes have a big influence on investor decisions and excluding them from analysis is far removed from the reality and practice of portfolio investment. Further assumption that investors can take any position of any size in any security he wishes as shown by Sharpe (1964) can be counteracted by the practical reality that investors are limited in the choices they make and investment

options are not infinitely divisible dependent on the depth of the market they are operating in Graham and Harvey (2014).

Investor rationality and orientation in risk averseness which are the key assumptions of the theory are rooted in the expectation that investors are completely aware of all risk entailed in an investment and will take positions based on a determination of risk, demanding a higher return for accepting greater volatility: in real markets some investors have been shown to be noise traders which goes against this principle of rationality and further investors are bound to be influenced by behavioral biases and psychological limitations in asset portfolio decision making as is aptly captured by Graham and Harvey (2014). Further the assumption that investors, as a group, have similar views on how they measure risk and that all investors experience information symmetry and will buy or sell based on an identical assessment of the investment could be somehow limiting. In reality, Graham and Harvey (2014) explain that markets seldom involve information symmetry and largely involve numerous sources of frictions like government regulation.

2.2.4 Functional Fixation Theory

This theory relates the quality of accounting information to investor decisions and performance of companies. First postulated by Hand (1990), functional fixation theory presupposes that whereas financial statement information is to be evaluated with a lot of diligence, users of accounting information seldom exercise such keenness in using the information and instead focus on a narrow set of figures particularly net earnings to the exclusion of other important information like cash flow and accruals patterns. In essence, the quality of financial information disclosed may have little effect on the perception of the investors about the business and that the relevance, reliability, understandability and comparability of information may be good for decision making, but the unsophisticated nature of users of the information will imply that they focus on a narrow set of numbers and would seldom carry out further analysis to reveal the true implication of the reported information. This implies the effect of the quality of

information on performance may not be as pronounced in the context of naïve and unsophisticated users (Hand, 1990).

Rooted in psychology and investor psychological and cognitive biases, the functional fixation hypothesis is of the view that users of financial information reported in financial statements about the financial performance, financial positon and financial adaptability of a business are always naive such that they fail to interpret the real cash flow implications of accounting earnings and other information (Hand, 1990). Their sole focus on the traditional use of accounting information seldom allows them to modify their expectations in line with the intrinsic accrual information in the financial statements. In this context, the primary function of accounting data is to show the financial performance based on the bottom line and the users may scarcely go beyond this to split the profits into their accruals and realized cash flows constituents. This may distort the impact of the quality of reported information on financial and return performance in the capital markets (Hand, 1990).

Functional fixation is heavily reliant on the accounting approach used in recognizing accruals and earnings in the profit and loss account. If the market fails to recognize the differences and/or changes in accounting approaches and earnings realization approaches, there are bound to be differences in firm valuations that are not related to rational forecasts of disparities in the future cash flows (Hand, 1990).

The singular focus on a narrow set of data rather than the overall view of the financial condition of the organization earnings implies that some users of accounting information ignore the differential valuation implication of the constituents of reported financial information particularly the earnings, but rather adjust their market outlook of the company based only aggregate reported numbers. Generally, the functional fixation hypothesis seeks explore the traditional financial reporting dilemma as to whether users of accounting information are diligent and sophisticated enough to make information decisions based on the underlying information as opposed to the superficial outlook of reported data.

The theory seems to reduce the expected use of accounting information especially in an environment in which the users of such information are mostly noise traders and naïve investors. It seems to put a check on the implied rationality of the users of accounting information and expects psychological and cognitive biases to play a prominent role in the use of accounting information irrespective of its quality with respect to relevance, reliability, understand-ability and comparability as expected by the international accounting standards board – IASB (2020). The theory is therefore useful in less than fully efficient markets where market prices take more than instantaneous time to adjust for new accounting data disclosed by accounting entities

2.2.5 MM Capital Structure Irrelevance Theory

The irrelevance of capital structure decisions is a theory which can be abstracted from the works of Modigliani and Miller (1958) on capital structure which indeed has implications on liability structure. According to the capital structure irrelevance theory of Modigliani and Miller (1958), the structuring of financial obligations be they long term or short term as is the case in this study has no bearing on the cost of the finances, the value of the firm and indeed the financial performance of the business. Debt financing has no implications on cost of finance and the value of a business.

In this theory, it is expected that the way the a firm arranges its liability structure can range from 100% current liability and 0% long term liability to 0% current liability and 100% long term liability and nothing will happen to vary the value of a firm. The theory assumes that value of a firms as affected by its financial performance is insensitive to the way a firm is financed such that capital structure and indeed liability structure is value irrelevant. The theory in its formative postulation seems to suggest that the variations in risks and costs associated with long term liabilities and current liabilities have no bearing on the performance of a business organization as persuasively described by Graham and Harvey (2014) in their textbook on corporate finance.

The theory is pegged on the absence of taxes since in a tax-free world the financial leverage arising from the debt interest tax shield gets wiped away and thereby eliminates the advantage of using various types of debt irrespective of their cost. This is particularly the case because in the presence of taxes, current liabilities with little or no cost of financing will have less tax shield as opposed to long term liabilities whose interest expense would automatically provide an interest tax shield. The theory is further rooted in the pre-supposition of zero agency costs and lack of information asymmetry which basically leads to a firm operational in a frictionless capital and operational market.

Modigliani and Miller (1958) persuasively argue that in the world free of taxes and other sources of frictions like bankruptcy costs, agency costs, information asymmetry and market inefficiency, how the assets of a firm are financed, and therefore the liability structure do not affect value and that it is the investing policy and the asset structure of a firm that influences performance and therefore value. This theory holds true under the set assumptions and when these are relaxed, it is observed that the way a firm is financed is bound to have an effect on financial performance and ultimately on its value and cost structure.

Several studies have been undertaken to test the veracity of the theory. Using the partial pay out approach, Kouki (2011) for instance re-examined the Modigliani and Miller (1958) capital structure irrelevance hypothesis. The study covered a nine year period from 1990 to 1998. The study fully relaxed the MM assumption of full dividend payout and assumed that firms have some income retention policy. The study was based on energy companies in the USA. The findings contrary to MM theory indicated that leverage significantly impacts firm value in the context of a partial dividend payout and some level of income retention.

Another study that contradicts the theoretical prediction of Modigliani and Miller (1958) is that of Hossain (2021) which re-examined the MM theorization based on a data set that came from a cross section of several countries across the globe. The study was based on a research period of 15 years running from 2004 through 2014. It used two sets

of firms, the highly geared ones and the ones with a low level of leverage. The findings contrary of MM, indicated that the less geared firms financially outperform the highly geared ones

2.2.6 Asset Finance Matching Theory

Just like the trade-off theory of liquidity and liability maturity structure of Gitman (1974) discussed in section 2.2.2 which explained both the asset side and the liability side of the balance sheet, this theory is also eclectic in that it incorporates both asset management and liability management. Asset maturity matching theory is a generic theory of working capital management that can be traced to classical finance and propounded by Sagan (1955).

According to asset finance maturity matching theory of Sagan (1955), the asset and liability strategies adopted by a firm will depend on the structure of the industry and the level of risk averseness of the business as reflected by the managers. In effect, the financing maturity of a firm is a function of the asset and cash flow characteristics of the firm and the risk appetite degree of the business. In this theory there are two categories of assets (long term assets and current assets) to be financed by two categories of liabilities (current liabilities and long term liabilities) and that the way they are financed depends on the level of the core working capital that is relatively stable, the fluctuating working capital that is largely unpredictable and the attitude towards risk of the management which can be risk averse, risk neutral or risk-taking (Sagan, 1955)

In line with this theory, three possible strategies can be adopted in managing assets and liabilities of a business. These are the aggressive approach, the hedging approach and the conservative approach of management (Keown, Scott, Martin & Petty, 2020). The names are associated with the risk and return level associated with assets and liabilities that are under management. From the asset point of view, assets can be liquid (current) or illiquid (mostly non-current). That current assets are associated with a low level of risk since they are available for settling maturing and overdue obligations but are largely

low return if at all. Long term assets are high risk given their illiquidity but usually have associated high returns. From the liability point of view, liabilities can be current or long-term. That current liabilities are associated with a high level of risk since they are due for payment but are largely of a low cost return if at all. Long term liabilities are low risk given their long term to maturity but usually have associated high cost (Keown, Scott, Martin & Petty, 2020). Drawing from these, the theory presupposes three approaches to financing assets based on the risk-cost considerations and the risk appetite of the firm as described at the start of this paragraph.

According to the aggressive approach that is pursued by firms with a very high tolerance for risk, current liabilities that are largely very risky are used to finance all the working capital and part of the long term assets. These are firms that believe in the low cost of the short term funds that are used to acquire a high percentage of assets including the some of the non-current ones that are associated with very high returns. Although there is a mismatch between the financing and the cash conversion cycle, the firm leverages the associated risk with the expected high returns from the strategy. The belief is that the associated returns outweigh the risk and cost of the strategy (Keown, Scott, Martin & Petty, 2020).

The hedging approach is also called the matching approach. In this approach that is pursued by firms that are at best risk neutral, current liabilities that are largely risky are used to finance only the gross capital and not any part long term assets. Long term assets and permanent working capital are financed by long term liabilities. In this case the cost is perfectly matched with the associated risk. Accordingly since shirt term funds are less costly, they are used to finance current assets that also generate very limited returns. There is no risk exacerbation given that the risk in the assets and the liabilities and the lifespan of the associated cash conversion cycle are perfectly matched. On the flip side, long term liabilities are used to finance long term assets. The enhanced returns of the funds are corresponding to the enhanced returns from the associated long term assets (Keown, Scott, Martin & Petty, 2020).

The last approach is the conservative approach which is an extremely risk averse strategy. According to this risk conservative approach that is pursued by firms with a very low tolerance for risk, current liabilities that are largely very risky are used to finance only a fraction of the working capital. The rest of the permanent working capital and the noncurrent assets are financed used long term liabilities. The risk averse firms are those that believe in the high risk of the short term funds hence are only willing to use it sparingly for the financing of the highly liquid current assets. Although there is a mismatch between the financing and the cash conversion cycle, the firm keeps the risk down while simultaneously having high cost of financing (Keown, Scott, Martin & Petty, 2020).

Several studies have been done in a bid to validate or discount the theory. Nazir and Afza (2009) for instance evaluated the association between aggressive working capital management strategy and financial performance of non-financial firms listed at the Karachi Stock Exchange. This was based on panel data for an eight year period running from 1998 through 2005. Their findings indicate that the aggressive working capital strategy is associated with improved financial performance of businesses as well as their market performance as measured by Tobin's Q.

Boisjoly, Conine Jr, and McDonald IV (2020) on the other hand examined the longitudinal effect of aggressive working capital management over a 28 year period running from 1990 through 2017. Their findings showed that over this long period of time, there has been noticeable shifts in the averages and skewness of working capital management indicators providing a trend towards more risk averse working capital management and more strict financial management. Interestingly, this has resulted in better financial performance a clear indicator that the more conservative the working capital management policy, the better the financial performance and vice versa

2.3 Conceptual Framework

The conceptual framework adopted for this study is schematically represented in figure 2.1. A conceptual framework is a group of concepts that are broadly defined and systematically organized to provide a focus, rationale and a tool for the integration and interpretation of information (Fisher, 2017). Peck, Olsen and Devore (2015) define it as a set of broad ideas and principles taken from relevant fields of enquiry and used to structure a subsequent presentation. In a nutshell, a conceptual framework conceptualizes the relationship between variables in the study and shows the relationship graphically or diagrammatically. It is a hypothesized model identifying the concepts under study and their relationship.

Current Asset Management
■ Current Asset Structure
  ✓ Total current assets
  ✓ Total Assets

Current Liability Management
■ Current Liability Structure
  ✓ Total current Liabilities
  ✓ Total Liabilities

Non-Current Asset Management
■ Fixed Assets Turnover
  ✓ Total Fixed Assets
  ✓ Periodic Sales

Long Term Liability Management
■ Long Term Liabilities Turnover
  ✓ Total Long Term Liabilities

Financial Performance
■ Return on Equity
  ✓ Earnings after Tax
  ✓ Shareholders' Funds

Dependent Variable

Quality of financial reporting
■ Financial Reporting Lag ratio
  ✓ Financial Year end
  ✓ Financial Reporting date

Independent Variables

Moderating Variable

Figure 2.1: Conceptual Framework

The conceptual framework of the relation between the independent variables (current asset structure, current liability structure, fixed assets turnover and long term liabilities turnover) and dependent variable (return on equity) from the literature review by the study is shown in figure 2.1. It assumes that the relationship between the independent variable and independent variable is linear, though moderated by the quality of financial reporting represented through the timeliness of financial reports as measured by the financial reporting lag and the financial reporting lag ratio (the number of days that

elapse after the financial year end before the financial statements are released by the reporting company).

2.3.1 Current Asset Management

Asset management is a component of financial management and involves the process of planning for, organizing, directing and controlling the assets of a business which form the asset structure of the firm (Seru & Sufi, 2021). It involves a trade-off between the risks of holding the assets against the returns as implied by the opportunity cost of lost income for non-return generating assets. Seru and Sufi (2021) indicate that current assets are suitable for daily operations but are largely non return generating assets. Fixed assets are the productive resources of the business but are largely illiquid. A trade-off is needed to strike a balance between the amounts of either of the assets to hold on the balance sheet so as to maximize business returns.

Current asset structure is the proportion of current assets in the total assets held by a firm. The levels of current assets held reflect the risk attitude of the firm given that these assets are available for paying off maturing and overdue financial obligations and therefore reduce financial risk but are largely non return generating and therefore impose heavy opportunity cost of lost income for the business (Baños-Caballero, García-Teruel, & Martínez-Solano, 2012).

From a conceptual perspective, asset structure simply defines the relative proportions of various categories of assets in the business (Seru & Sufi, 2021). Taken to its logical conclusion this definition implies that of the various categories of assets identified by Oluoch (2014), each can be related to the other or the total and all these would remain valid concepts of asset structure. Oluoch (2014) identifies assets as current assets, non-current assets, intangible assets and tangible assets. Accordingly one can conceptualize current assets as a proportion of total assets; noncurrent assets as a proportion of total assets; either of these two as a proportion of each other or intangible assets as a proportion as a proportion of total assets; tangible assets as a as a proportion of total

assets or either of these two as a proportion of each other. Due to the need for mutual exclusivity, this study adopts current assets as a proportion of total assets as recommended by Blume and Friend (1975).

2.3.2 Current Liability Management

According to Seru and Sufi (2021), liability management is a component of financial management and involves the process of planning for, organizing, directing and controlling the liabilities of a business which form the financial structure of the firm. It involves a trade-off between the risks of using liabilities against the returns as implied by the attendant costs. Seru and Sufi (2021) indicate that current liabilities are less costly but involve a great deal of financial risk while long term liabilities are costly but have a reduced level of financial risk

Current liability structure is the proportion of current liabilities in the total liabilities held by a firm. The levels of current liabilities used in financing assets and operations reflect the risk attitude of the firm given that these liabilities involve heavy financial risk given that they are payable within a short period of time and could lead to financial distress when a firm is momentarily devoid of current assets. On the flipside, they generally involve low to zero cost of financing and therefore are instrumental in increasing profitability and returns for the business (Baños-Caballero, García-Teruel, & Martínez-Solano, 2012).

From a conceptual point of view, liability structure simply defines the relative proportions of various categories of liabilities in the business (Seru & Sufi, 2021). Taken to its logical conclusion, this definition implies that of the various categories of liabilities identified by Oluoch (2014), each can be related to the other or the total and all these would remain valid concepts of liability structure. Oluoch (2014) identifies liabilities as current liabilities (accounts payables, short term debt, bank overdrafts, accrued expenses, papers and the like) and long term liabilities (mortgages, debentures, bonds, notes, long term debt and the like). Oluoch (2014) further asserts that it is not

uncommon to have some liabilities being categorized as medium term when their settlement time horizon is beyond one year and not exceeding three to five years depending of the time perspective of the reporting business. Accordingly one can conceptualize current liabilities as a proportion of total liabilities or current liabilities as a proportion of the long term liabilities. For the purposes of this study, current liability structure is taken as the ratio of current liabilities to the total liabilities of a business.

2.3.3 Non-current Asset Management

Non-current assets are also called fixed assets and are economic resources of a business arising from past events and transactions and from which future economic benefits are expected so long as the benefits are realizable over a period exceeding one financial period (Graham & Harvey, 2014). Unlike the current assets, non-current assets are considered as the productive resources of a business and mostly incorporate plant, property and equipment. The management of fixed assets relate to mechanisms by which these assets are planned for, organized, directed and controlled in order to meet the organizational objective including shareholder wealth maximization.

There are numerous ways of representing the management of non-current assets of a business. Seru and Sufi (2021) look at this from two perspectives i.e the balance sheet perspective and the income statement perspective. In the balance sheet perspective, the management of fixed assets is evaluated by checking out the investing policy of a business by determining the proportion of the fixed assets to the total assets on the balance sheet of a business. This can aptly be referred to as the fixed asset structure, or the non-current asset structure. In the income statement perspective, the management of fixed assets is related to the income statement elements in what are generally referred to us turnover ratios.

A common turnover ratio used with respect to fixed assets is the fixed assets turnover (FAT) ratio. Fixed assets turnover is the ratio of sales income of a business to its total fixed assets and is a measure used to indicate the management of non-current assets with

respect to the efficiency and effectiveness with which they are used to generate sales revenue for the business. The higher the turnover, the better the management of those assets in generating income for the business and vice versa (Oluoch, 2014).

2.3.4 Long Term Liability Management

Long term liabilities of a firm are also called non-current liabilities and are the financial obligations of a business arising from past events and transactions and the settlement of which in the future leads to outflow of economic resources from the business so long as such settlement time horizon is of a period exceeding one financial period (Graham & Harvey, 2014). Unlike the current liabilities, long term liabilities are considered more costly but less risky and a judicious balance of costs against risk is required when deciding on how much of these liabilities to use in financing assets and operations (Graham & Harvey, 2014). Long term liabilities are part of long term finances of a business in the capital structure that often also includes preferential equity, and shareholders' funds.

Long term liabilities fall under what is commonly called financing decisions in financial management (Pandey, 2010). Financing decisions relate to raising funds from the various sources that the firm can access. This entails identifying the various sources of finance available to the firm and also deciding on how much funds to raise from each source (Pandey, 2010). A decision has to be made on the mix of long-term finance sources relating to the mix between borrowed funds and shareholders' funds. The financing decision therefore, relates to making the decision regarding the capital structure of the firm and the weighted average cost of the capital from all sources.

Financing decisions are critical and it is therefore essential for management to make effective decisions about how, where and when to acquire funds for the different uses in the firm. Because a firm tends to profit most when the market estimation of an organization's share improves, this is not only a sign of development for the firm but also it boosts investor's wealth (Yogendrarajah, Kengatharan, & Suganya, 2017).

Consequently, this relates to the composition of various sources of long term liabilities in the financial structure of a company. Financial decisions are influenced by various factors in the company. These include cost, risk, conditions of the market, cash flow position and control (Baker and Martin, 2011).

There are numerous ways of representing the management of long term liabilities of a business. Seru and Sufi (2021) look at this from two perspectives i.e the balance sheet perspective and the income statement perspective. In the balance sheet perspective, the management of long term liabilities is evaluated by checking out the financing and leverage policy of a business by determining the proportion of the long term liabilities to the total liabilities (in some cases total long term finance) on the balance sheet of a business. This can aptly be referred to as the long term liability structure. In the income statement perspective, the management of long term liabilities is related to the income statement elements in what are generally referred to us liability turnover ratios.

Long term liabilities turnover is the ratio of sales income of a business to its total long term liabilities and is a measure used to indicate the management of long term liabilities with respect to the efficiency and effectiveness with which they are utilized to generate sales revenue for the business. The higher the turnover, the better the management of those liabilities in helping generate income for the business and vice versa (Oluoch, 2014).

2.3.5 Quality of Financial Reporting

Financial reporting is the process of availing financial information about the financial performance, financial position and financial adaptability of a business to stakeholders for their economic decision making (Oluoch, 2014). Information can only be useful for making economic decisions if it has some inbuilt qualities often called qualitative characteristics of financial information. These are often stated as relevance, reliability, understandability and comparability of financial information (Keown, Scott, Martin, & Petty, 2020). Financial reporting is said to be of a high quality when it incorporates these

attributes. Oluoch (2014) refers to the first two as the content qualitative characteristics of financial information and the latter two as the presentation attributes and asserts that the first two are the most critical attributes since they relate to the actual information being reported whereas the latter two only describe the aesthetic attributes as to how the information is presented in the financial statements. It is in this line logical to conclude that high quality financial statements must not only have relevant information, but that information must also be reliable.

Extant literature has developed tools of representing the relevance of information for decision making given that the existence of international financial reporting standards is presumed to make information reliable for economic decision making (Mappadang, Wijaya, & Mappadang, 2021). Relevance is the ability of financial information to influence or have a bearing on the final decisions arrived at by the users of the financial statements. Oluoch (2014) asserts that for information to be relevant, it must have inbuilt qualities of timeliness, feedback value and predictive value also called forecast value. Timeliness is the ability of financial information to be provided in time for decision making given that late information is stale and therefore irrelevant for economic decisions (Mappadang, Wijaya, & Mappadang, 2021). According to Fujianti and Satria (2020), timeliness is often represented by financial reporting lag.

Financial reporting lag is a quality of financial reporting information that shows the timeliness of financial reporting and availing of financial information for economic decision making. It is taken as the time period between the end of the financial year and the date the financial statements are released often a few weeks or months after the end of the financial period. It is deemed that short financial reporting lags represent timely information and therefore indicate high quality of financial reporting and vice versa (Fujianti, & Satria, 2020). For measurement purposes, financial reporting lag is represented by financial reporting lag ratio. This is the ratio of financial reporting lag to the number of days in a financial year often taken as 365 days although some studies use the number as 360 days.

2.3.5 Financial Performance

Financial performance is an indicator of how well a firm uses the resources at its disposal to generate profits for the shareholders of the business. There are two types of financial performance the income statement oriented financial performance that is measured by margin ratios particularly gross profit margin and net profit margin and the balance sheet oriented financial performance that is measured by the return ratios especially return on assets, return on equity, return on investment and return on capital employed (Oluoch, 2014).

There are various conceptualizations of financial performance. These are the income statement based financial performance, the balance sheet oriented financial performance and the market oriented financial performance. Most scholars consider the last aspect not to be an indicator of financial performance but rather an aspect of the performance of a company in the capital markets particularly the stock exchanges (McLaney, 2017). Income statement oriented financial performance relates profit to the items in the income statement particularly income are called margin ratios. The most popular ones are the gross profit margin and the net profit margin.

The balance sheet oriented financial performance relates profits to the balance sheet items especially assets and capital. The most commonly used indicators of financial performance based on the balance sheet are return on assets, return on investment, return on capital employed and return on equity. McLaney (2017), shows that return on assets compares profit after tax with the total assets of the business and this is often also called return on investment. The return on equity compares this profit with shareholders' funds that include share capital, capital reserves, revenue reserves and retained earnings. When the profit after tax is compared to the sum of shareholders' funds and long term liabilities, it is called return on capital employed.

ROA is a ratio of profit after tax to its total assets (McLaney, 2017). It is major ratio that indicates the profitability of a firm and it measures the ability of the firm management to

generate income by utilizing firm assets at their disposal which indicates the efficiency of the management of a firm in generating net income from all the resources of the institution. A high ROA shows that the company is more efficient in using its economic resources. ROE on the other hand indicates the profitability of the capital provided by the shareholders of a business to its operations. It is a measure that indicates how well a firm is performing to compensate the providers of equity finance to the business. ROE is a critical ratio given that most scholars in contemporary financial management consider shareholder wealth maximization to be the overriding objective of business entities. The higher the ROE, the better the financial performance and vice versa (Oluoch, 2014).

2.4 Empirical Literature Review

Empirical literature review entails the appraisal of extant literature to identify the existing empirical gaps that need to be filled in order to fill those knowledge gaps through further research. It involves appraisal of the research objectives, hypotheses, findings and going ahead to interrogate those findings in order to unearth the extant gaps. In this section, an appraisal of the existing studies is undertaken for all the variables and interrelationships hypothesized for this research.

2.4.1 Current Asset Management and Financial Performance

Numerous studies have been undertaken locally, regionally and globally to try and establish how current asset management influences financial performance of companies. Njeru (2016) for instance evaluated the influence of current asset management on financial performance of deposit taking SACCOs in Kenya focusing on liquidity management. The study focused on 36 licensed SACCOs and the study relied on both primary and secondary data in the analysis. Both univariate and multivariate regression analysis were used in the study. The results showed that liquidity management has a positive effect on financial performance.

Waswa, Mukras and Oima (2018) undertook a study to establish the influence of liquidity on financial performance of companies in the sugar industry in Kenya. The study was carried out for a study period of twelve years from 2005 to 2016. The research was carried out on five firms. The analytical model used in the study was the panel data random effects model. Their findings indicate that liquidity management has a negative effect on financial performance of the sugar firms in Kenya.

Nyamao et al. (2012) examined the influence of working capital management decisions on firm performance. The study applied a descriptive survey methodology and focused on SMEs in Kenya. The study addressed the determinants of performance in manufacturing SMEs. Data from the SMEs was obtained and analyzed using SPSS package. Results revealed that SMEs in Kenya's manufacturing industry looked shaky but was stabilizing. Key ratios like capital adequacy, asset quality and return on assets did not have a consistent trend and this was worrying. Results also revealed that firms' management did not have clear policies on how to maintain and grow these key ratios. Further, results revealed that firm failure had no significant relationship with earnings after tax, total loans, total equity and return on assets. However, firm failure had a significant relationship with capital adequacy, asset quality and total assets.

Nurlaela, Mursito, Kustiyah, Istiqomah and Hartono (2019) evaluated the interrelationship between asset management and financial performance using asset turnover as the indicator of asset management. The study was based on the fast moving consumer goods industry. It was based on a 3- year time framework covering the period 2016 through 2018. The quantitative research used regression analysis asset management both liquid assets and total assets had a positive effect on financial performance of these companies as listed on the Indonesia Stock Exchange.

Mayanja and Perks (2017) in a study in Uganda focused on the effect of working capital management on performance of commercial firms. The study used secondary data and applied pooled annual time-series and cross-section panel of firms' balance sheets. The study suggested that the use of structural reforms aiming at establishing more financial

prudence in the manufacturing industry can help ensure that performance indicators are corresponding with the best decisions of firms in developed markets. The findings are consistent with the findings by Brijlal, Enow and Isaacs (2014) who conducted a study on agricultural SMEs in India and established that working capital management in these firms were significant in influencing performance. This study had applied structured questionnaires to collect data from owner/managers and regression analysis in analyzing the data.

In a study in Ghana, Bismark, Kofi, Kofi and Eric (2018) assessed the influence of working capital management on performance and sustainability of medium enterprises. The study used secondary data that was analyzed using multiple linear regression. The study established that poorly financially regulated firms are expected to be less profitable, have more risks, lower valuations and pay out less to their shareholders. They also explain that better regulations benefit firms through greater access to financing, lower cost of capital, better performance and more favourable treatment of all stakeholders. It has been stated that weak regulation in the manufacturing sector not only leads to poor firm performance and risky financing patterns, but can also provide conducive ground to macroeconomic crises.

2.4.2 Current Liability Management and Financial Performance

There are several studies that try to find out the interrelationship between management of current liabilities with financial performance of business entities. In Kenya for instance, Mboi, Muturi and Wanjare (2018) set to establish the effect of short term debt on financial performance of medium-sized and large enterprises in the country. The study null hypothesized that short term debt does not have any significant effect on the performance of the companies. The study period was 6 years that ran from 2011 to 2016. The study was based on companies listed at the Nairobi Securities Exchange and their size restrictions yield a sample of 60 companies from this lot and a further 30 companies that were deemed to be medium sized as draw from the top-100 medium sized enterprises catalogue. Current liabilities, as indicated by short term debt was measured

using the short term debt to total assets ratio. Financial performance on the other hand was measured with the use of return on assets and return on equity. The findings revealed that short term debt had a negative effect on financial performance contrary to the expectations of the trade-off theory of Gitman (1974).

In Somalia, Hassan, Muturi and Mberia (2017) examined the influence of payables management, among other working capital items, on financial performance of water processing firms in Puntland region of the country. Using quarterly data, the research period covered five years to 2015 from 2011. The study used four aspects of working capital management being the management of cash, inventories, receivables and payables. Rooted in descriptive research design, the study used regression analysis to check how performance payables turnover ratio affects financial performance as measured by return on assets. Other variables checked were cash conversion cycle, receivables turnover ratio and stock turnover ratio. The findings indicated that the management of payables had no significant effect on the performance of water companies in the Puntland state of Garowe. As for the other variables, cash management and inventory management both had a positive effect on financial performance while receivables management had a negative effect on financial performance.

In Kenya, Shikumo, Oluoch and Wepukhulu (2020) evaluated the influence of short term debt on financial growth of non-financial companies quoted on the Nairobi Securities Exchange. The study covered a ten year period running from 2008 to 2017. Based on agency and firm growth theories, an explanatory research design was adopted in the study. This census study was based on 45 listed firms and thereby 450 firm-year observations. The findings indicate that short term debt has a positive impact on financial performance as indicated by growth in profitability exhibited by earnings per share as well as the capitalization of the companies in the stock market.

In Romania, Raisa and Cristian (2015) undertook a study to evaluate whether short term debt has any influence on profitability. The study relied on companies quoted at the Bucharest Stock Exchange. The study relied on a research period of 12 years that

covered 2003 to 2014. The analytical model that was used in the study was panel data regression analysis using t-statistic at 95% confidence interval. The study relies on a sample of 50 companies that operate in the various sectors of the Stock Exchange. The findings ex post controlling for asset tangibility, firm size, firm growth and liquidity, the findings from the study revealed that the use of short term debt had a negative effect on financial performance as measured through corporate profitability.

2.4.3 Non-current Asset Management and Financial Performance

Besides the influence of the management of current assets and current liabilities, there exists studies that try to establish the link between the management of non-current assets and financial performance of businesses. Irungu, Muturi, Nasieku and Ngumi (2018) for instance sought to establish the effect of asset tangibility on financial performance of listed companies at the Nairobi securities Exchange. They null hypothesized that asset tangibility had no significant effect on financial performance as measured by return on assets and return on equity. The study was based on a research period of 5 years from 2012 to 2016 and employed a census of all the 64 firms quilted at the NSE. They relied on dynamic panel data analysis model with ANOVA being deployed to evaluate cross-sectoral variable interrelationships. The results of the study reveal that asset tangibility has a positive effect on the financial performance of firms listed at NSE.

In Indonesia, Purba and Bimantara (2020) evaluated the effect of asset management on financial performance for companies listed at the Indonesia Stock Exchange. In the study, asset management was represented using fixed asset turnover while financial performance was based on return on assets. The research hypothesis was that management of assets have no significant effect on financial performance of Indonesian Public companies. The study period was 5 years covering 2013 to 2017. The study focused on a census of Sea Transportation companies from all the companies listed on that stock market. For analytical purposes the study used panel regression analysis leading to a panel observations of 30 firm years. Their findings revealed that fixed assets turnover had a positive effect on the financial performance of the study companies.

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In Oman, Al-Ani (2013) evaluated the effect of asset structure on the performance financially of manufacturing firms quoted at the Muscat Securities Market. The study just like that of Purba and Bimantara (2020) covered a period of 5 years running from 2008 to 2012. The study was dependent on content analysis of financial statements data of the annual reports of those companies. It utilized two measures of financial performance which were return on assets and return on equity. In their study, asset structure was based on both current assets and non-current assets and were measured by current assets turnover and fixed assets turnover respectively. Their findings revealed that the turnover of assets has no significant influence on the financial performance of firms as measured using return on equity (ROE). In addition, fixed assets had no effect on return on assets as a measure of financial performance. With respect to current assets turnover, neither did it influence return on equity nor return on assets.

In Ghana, Musah, Kong and Osei (2019) carried out a research to establish the association between the tangibility of assets and financial performance of firms quoted at the Ghana Stock Exchange. The study relied on three measures of financial performance being return on equity, return on capital employed and return on assets. The study was based on a quantitative research design using the panel data regression model. It was based on secondary data from audited financial statements. The sample comprised of 13 companies and covered a period of 10 years running from 2008 to 2017. From the findings, asset tangibility had no effect on return on assets. The effect was however negative when financial performance was measured using return on equity and return on capital employed.

2.4.4 Long Term Liabilities Management and Financial Performance

There is extant literature with respect to how the management of long term liabilities affects financial performance of business entities. In Turkey for instance, Nassar (2016) examined the influence of capital structure on financial performance of companies listed on the Borsa Istanbul, also called the Instanbul Stock Exchange (ISE). The study was focused on industrial companies on that bourse, which totaled up to 136 companies. The

study period ran for 8 years covering 2005 all through to 2012. The analytical model used in the study was multivariate regression analysis applied to test the hypothesis that capital structure has no significant effect on financial performance. The t-statistic was used in the test at 95% confidence interval. The long term liabilities structure was used to represent capital structure and was captured using debt ratio taken as the ratio of long term debt to total long term finance. Performance measures were based on return on equity, earnings per share and return on assets. The findings revealed that debt ratio has a negative effect on financial performance of industrial companies listed on the Istanbul Stock Exchange.

In Romania, Vatavu (2015) conducted a research to establish the influence of capital structure on financial performance of companies listed at the Bucharest Stock Exchange. The companies of focus were those listed in the manufacturing segment of that stock market, all of which numbered to a total of 19 firms. The null hypothesis that capital structure does not influence the financial performance of these companies was tested over a study period of 8 years running from 2003 to 2007. Long term debt was used to indicate capital structure alongside short term debt and equity. Financial performance on the other hand was measured using return on equity and return on assets. Using regression analysis and t-statistic at 95% confidence interval to test the hypothesis, the results indicated that debt has no statistically significant effect on the performance of firms and that the level of debt financing seems not to influence financial performance.

Just like Nassar (2016) in Turkey, in South Africa Magoro and Abeywardhana (2017) examined the effect of debt capital on the financial performance of companies in that country. These were wholesale and retail companies listed at the Jonesburg Stock Exchange. The random sampling used in the study led to identification of 25 companies that were used over a study period of 5 years that run from 2011 to 2015. Panel data analysis was undertaken relying on the fixed effects model. The study relied on financial reporting measures of profitability and financial performance. The results revealed that both long term debt and short term debt had a negative effect on the financial

performance of the whole sale and retail companies listed at the Johasburg Stock Exchange.

In Pakistan, Tauseef, Lohano and Khan (2015) sought to establish how debt financing impacts financial performance of corporate entities in the textile industry in that country. The study was based on 7 year period running from 2002 to 2008. The analytical model was panel data regression model and it was used to test the hypothesis that debt financing has zero effect of financial performance of the 95 textile companies in that country. The findings show a curvilinear pattern in which the debt to asset index versus return on equity relationship starts by initially increasing, but then it climbs to an optimal position before it climbs down again. They establish that 56% is the optimal debt to asset ratio in that industry in Pakistan.

Still in Pakistan, Khan, Shaikh, Shah, Zahid and Shaikh (2017), evaluated the influence of financing decisions on financial performance of firms listed in the Karachi Securities Exchange. The population targeted by the study was 100 organizations. Secondary data was collected for six years from 2004 to 2009. The study applied Ordinary least squares regression to model the collected data. Financing decisions were measured through the mix between debt and equity while financial performance was measured using market capitalization, ROA, Tobin's Q and ROE. The results from the study indicated that financing decisions did not have a significant influence on financial performance of the listed firms.

In Nigeria, Alhassan and Islam (2021) evaluated the effect of capital management on financial performance of publicly quoted oil companies in that country. Their specific focus was on liquidity management. The study was carried over a period of 10 years running to 2020 from 2011. The analytical model used was panel regression analysis while performance was measured using profit after tax, return on equity and return on assets. The findings show that debt had a negative influence on financial performance and that the high the debt levels the lower the financial performance and vice versa.

In Ghana, Prempeh and Nsiah Asare (2016) undertook a study to appraise the influence of debt policy on financial performance of manufacturing business entities listed at the Ghana Stock Exchange. The study relied on a research period of 11 years running from 2005 to 2015. Their debt policy focused on the management of both current liabilities and long term liabilities. The study had a sample of 5 companies thereby leading to 55 firm year observations. The analytical model adopted in the study was the panel data regression approach. The study deployed three measures of financial performance being return on assets, Tobin's Q and gross profit margin. With respect to debt management, debt ratios were utilized in the research. It also had two control variables being the size of the firm and the opportunities for firm growth. The findings indicated that all forms of debt, short term, long term and total debt, had a negative effect on financial performance of the public manufacturing firms in Ghana.

In Jordan, a study by Alslehat and Al-Nimer (2017) investigated the financing decisions on financial performance of insurance companies in the country. The study focused on mix of debt and equity and cash from financing activities and how they influenced financial performance which was measured through return on assets. The study focused on 23 insurance companies and covered a period of five years (2009 – 2013). The collected data was analyzed using panel regression model. The study results showed that cash from financing activities had significant effect on ROA. However, mix of debt and equity did not have a significant effect on financial performance.

A study by Eton, Uwonda, Mwosi, Ogwel and Obote (2019) in Uganda examined the influence of financing decisions on financial profitability of firms in Lira district. The study applied a cross sectional study design. Primary data for the study was collected using structured questionnaire. The target respondents for the study were business owners. The collected primary data was analyzed using descriptive statistics and multiple regression analysis. The study findings established that the business owners who participated in the study had effective processes of seeking finance and ensured that adequate finance was raised to take up all the profitable investment projects planned. However, the business owners were poor in forecasting future finance needs and

budgeting. The multiple regression findings indicated that financing decisions had a significant effect on financial performance of the firms.

Soet, Muturi and Oluoch (2018) investigated the influence of financing decision making on financial performance of mutual funds in Kenya. The study used a causal research design and collected secondary panel data. This data was collected from audited financial statements of the 22 mutual funds that were the focus of the study. The data was collected for a period of five years (2011 – 2016). The collected secondary data was analyzed using descriptive statistics and panel data regression analysis. The study findings established that mix of debt and equity finance sources had a positive and significant influence on financial performance which was measured using return on assets.

2.4.5 Quality of financial Reporting and Financial Performance

Studies have also evaluated how quality of financial reporting is related with business financial performance. In Ghana, Agyei-Mensah (2018) for instance sought to evaluate the influence of corporate governance attributes and the financial reporting lag on financial performance of companies quoted on the Ghana Stock Exchange. The study was carried out over a research period of 3 years on 30 firms which made a sample of 90 firm-year observations. The analysis was based on multivariate regression analysis and the hypotheses that corporate governance attributes and financial reporting lag both had no significant influence on financial performance was tested using the t-statistic at 95% confidence interval. From a descriptive perspective, the findings showed that the average financial reporting lag of the listed firms at the Ghana Stock Exchange was 173 days coupled with a maximum of 173 days and a minimum of 55 days. This was compared to a standard deviation of 21 days. The inferential findings indicated that there is a negative relationship between financial reporting lag and financial performance of the study firms. They also revealed a trend where good financial performance was associated with early financial reporting and vice versa.

In Kenya and with respect to corporate governance, Mathuva, Tauringana and Owino (2019) carried out a research to establish the influence of corporate governance quality on financial reporting and auditing timeliness of financial statements among public companies in Kenya. The study period was 10 years running from 2007 to 2016 with a sample of 543 firm year observations. Two approaches of analysis are used in the study. These are the granular and the aggregated approach to analysis based on panel data regression. The factors that influence financial reporting increased lags and audit delays were established to be the size of the board of directors, the frequency of board meetings and the independence of the board of directors. Factors that have the opposite effect are the board diversity and the long tenure for independent directors

Using value relevance as an indicator of financial performance, Attia, Lassoued and Sassi (2019) sought to establish the timeliness of financial reporting and its influence on the value relevance of financial performance of companies in 12 Middle East and North Africa. The study period was six years covering 1999 through 2014 and focused on commercial banks in those countries. The findings showed that banks with high financial reporting lag have more value relevant earnings data than those without. In addition, this relationship was found to weaken when the analysis is applied on large banks as well as more risky banks that operate in active equity securities markets where internet usage is very active and where there is considerable investor protection rules.

In Iran, Arianpoor (2019) sought to establish how financial reporting lags affect financial performance of companies in that country. Other attributes analysed alongside financial reporting lags were institutional ownership and board characteristics. The study focused on firms quoted on the Tehran Stock Exchange over a five year period running to 2017 from 2013. The 126 firms that formed the sample were analysed for performance using return on equity and return on assets. The reporting lag was based on the number of days that lapse between the year end and the day the audit report is released. According to the findings, the financial reporting lag is negatively associated with both return on assets and return on equity. The shorter the reporting lag, the better the financial performance and vice versa. In the same study while board size negatively

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affected financial performance, the opposite was true for institutional ownership. Further, board gender diversity had no significant influence on financial performance.

In Indonesia, Mappadang, Wijaya and Mappadang (2021) analysed the financial performance and its association with financial reporting timeliness. The other variable that are evaluated was firm size. The focus was on industrial manufacturing firms quoted at the Indonesian Stock Exchange over a 4 year period running from 2016 to 2019. Purposive sampling led to a sample size of 30 firms. For analytical purposes, logistic regression was used. The findings from the study show that there is no significant relationship between financial performance and the financial reporting lag. The same conclusion was arrived at with respect to the other variables of the study that is firm size, leverage and liquidity.

2.5 Critique of Literature

Following the evaluation of literature, this section provides a critique of the same by identifying the knowledge contributions of the extant literature while simultaneously identifying the knowledge gaps that can be filled through further research. The critique is done from four perspectives being contextual critique, methodological critique, theoretical critique and conceptual critique.

From a methodological point of view, all the studies in the area of relating asset and liability management on one hand to financial performance on the other have adopted the quantitative approach to evaluation rooted in the positivist approach. The studies have been able to reveal varying relationships ranging from positive influence, zero influence to negative influence of managing assets and liabilities on financial performance of business entities. The emerging critique on this front is that some of the studies have relied on analytical model that did not fit the data very well. For instance, some studies arrived at conclusions while using multiple linear regression and ordinary least squares where a more versatile model like the panel data regression model would have worked well. Njeru for instance used multivariate regression analysis while

multivariate regression analysis while evaluating the influence of current asset management on financial performance of deposit taking SACCOs in Kenya focusing on liquidity management. The same approach was applied by Nurlaela, Mursito, Kustiyah, Istiqomah and Hartono (2019) in Indonesia, Bismark, Kofi, Kofi and Eric (2018) in Ghana; Nassar (2016) in Turkey and Vatavu (2015) in Romania. It is not clear if findings from such studies are robust enough to be generalizable.

From a conceptual point of view, several studies (Hassan, Muturi & Mberia, 2017; Raisa & Cristian, 2015; Purba & Bimantara, 2020; Al-Ani, 2013; Musah, Kong & Osei, 2019; Nassar, 2016; Vatavu, 2015; Magoro & Abeywardhana, 2017; Tauseef, Lohano & Khan, 2015; Alhassan & Islam, 2021; among others) have been undertaken to find out how the management of assets and the management of liabilities influences financial performance of businesses in general and manufacturing companies in particular. These studies have gone a long way in bridging the gap between asset and liability management on one hand and financial performance on the other. They can however be critiqued on a number of areas. Firstly, some of them have conceptualized financial performance using return on assets as the dependent variable yet the independent variables include assets of assets management making the results to be affected by the problems of collinearity. Examples of studies that have had financial performance being represented by ROA while the independent variables also include assets include Nurlaela, Mursito, Kustiyah, Istiqomah and Hartono (2019); Purba and Bimantara (2020); Al-Ani (2013) and Musah, Kong and Osei (2019). It is not clear if the conclusions arrived from such conceptualized studies can be generalized when compared to others having performance conceptualized as return on equity, margin performance or market performance.

Still from a conceptual angle, the available studies have made an effort to establish the direct effect of asset management and liability management on one hand and financial performance on the other. Again, this has immensely bridged the gap with respect to how the three categories of variables relate. The shortcoming from such interrelationship is that they ignore the fact social phenomena, under which economic performance of

companies and their management fall, cannot fully explained by a few variables unlike physical phenomena. In this respect there are numerous factors that moderate and mediate the established interrelationships that are not considered by the studies. It has been shown that the quality of financial information affects financial management decisions (Attia, Lassoued & Sassi, 2019). Extant studies have ignored the moderating effect of the quality of financial information on the ex-ante relationship between asset and liability management on one hand and financial performance on the other.

From a contextual angle, several studies have been done in Kenya and tried to establish how the management of assets and liabilities relate to financial performance of business entities (Njeru, 2016; Waswa, Mukras & Oima, 2018; Nyamao et al., 2012; Mboi, Muturi & Wanjare, 2018; Shikumo, Oluoch & Wepukhulu, 2020; Irungu, Muturi, Nasieku & Ngumi, 2018 and Soet, Muturi & Oluoch, 2018 among others). This has been critical in bridgeing the contextual literature gaps. The studies have however focused on other sectors like the companies listed at the Nairobi Securities Exchange, Small and medium size enterprises as well as the financial sector. The critical sector of the manufacturing firms in the building and construction sector have largely not been explored yet their examination will go a long way in providing new knowledge.

The final critique comes from the theoretical angle. Several theories have been explored to explain how the management of assets and liabilities on one hand and the financial performance of businesses on the other are related. These theories include the agency theory of Jensen and Meckling (1976); trade-off theory of liquidity and liabilities of Gitman (1974); The Modigliani and Limmer (1958) theorem of capital structure irrelevance and the asset finance matching theory of Sagan (1955). None of the theories fully explains the association between asset and liability management with respect to financial performance. Accordingly, there exists a theoretical gap that it is not clear which of the theories is the most robust with respect to how these variables relate.

2.6 Literature Gaps

Following the evaluation of literature, four gaps become evident. These are the conceptual gap, the theoretical gap, the contextual gap and the empirical gaps. It is these gaps that form the foundation of this study. From the conceptual point of view, the emerging evaluation of the conceptual literature provide four concepts that needs to be further interrogated. These are asset management, liability management, quality of financial reporting and financial performance. With respect to asset management, there are two concepts that emerge from literature and it is not clear which is the most effective one in representing the management of assets. These are the structure of assets on one hand and the efficiency and effectiveness with which assets are utilized in generating income. Whereas scholars like Oluoch (2014) use assets turnover as an indicator of asset management through the efficiency and effectiveness of utilizing them for generating income, others like Seru and Sufi (2021) use asset structure, being the proportion of a category of assets to the total assets, as an indicator of asset management. This provides a gap as to the best way of conceptualizing both current asset and non-current asset management.

With respect to liability management, there are equally acceptable two conceptualizations that emerge from literature and it is not clear which is the most effective one in representing the management of liabilities. These are the structure of liabilities on one hand and the efficiency and effectiveness with which liabilities are utilized in generating income. Whereas scholars like Oluoch (2014) use liabilities turnover as an indicator of liability management through the efficiency and effectiveness of utilizing them for generating income others like Seru and Sufi (2021) use liability structure, being the proportion of a category of liabilities to the total liabilities, as an indicator of liability management. This provides a gap as to the best way of conceptualizing both current liabilities and long term liabilities management.

The other concept arising from evaluation of literature is the quality of financial reporting. Literature reveals that the quality of financial reporting reflects the ability of

financial information to faithfully represent the information expected to represent in terms of financial performance, financial position and financial adaptability and to generally be useful to stakeholders for economic decision making (IASB, 2020). IASB (2020) further indicates that this quality represent the attributes of relevance, reliability, understandability and comparability of financial information. The extant gap is that it is not clear which of these concepts represents the most reliable attribute of the quality of financial reporting although Oluoch (2014) indicates that relevance and reliability dwarfs understandability and comparability as they relate to the actual content of financial information as opposed to how that information is presented in financial statements. When these are picked especially relevance, the emerging conceptual gap is how best to represent relevance be it timeliness as indicated by financial reporting lag, or should it be predictive value or control value. Whereas timeliness can be measured by financial reporting lag ratio, literature is not clear as how to measure control and predictive aspects of relevance of financial information.

The last conceptual gap relates to how to represent financial performance. It emerges from literature that there are a multiple ways of conceptualizing financial performance ranging from the income statement perspective (where performance is identified through margin ratios like gross profit margin and net profit margin), balance sheet perspective (where performance is identified through return ratios like return on equity and return on assets) or market performance perspective (where performance is seen through market returns and Tobin's Q). The balance sheet measures seem to be the most popular from extant literature although the extant is gap is whether to conceptualize performance as return on equity or return on assets or return on capital employed.

The other gap that emerges from literature appraisal is the theoretical gap. There are a number of competing theories each of which arriving at confounding explanations as to how asset and liability management affects financial performance. The gap becomes obvious when it becomes hard to identify the most versatile of them and it becomes evident that research needs to be carried out in order to verify the most veritable of these theories. The MM capital structure theory of Modigliani and Miller (1958) for instance

predicts a zero correlation between financial performance and financial structure of current assets and liabilities while the tradeoff theory of Gitman (1974) predicts that financial performance is directly related to the proportion of current liabilities in the liability structure. To confound the problem, the asset finance matching theory of Sagan (1955) and the agency theory of Jensen and Meckling (1976) point to varying outcomes depending on the managerial orientation towards risk and private objectives. In light of this, the theoretical gap is that it is not clear which of these is the most plausible theory in the Kenyan context.

The final gap arising from the appraisal of literature is the contextual gap. Numerous studies have been done in multiple countries with the intention of identifying how assets and liability management affect financial performance. These include Hassan, Muturi and Mberia (2017) in Somalia; Raisa and Cristian (2015) in Romania; Purba and Bimantara (2020) in Indonesia; Al-Ani (2013) in Oman; Musah, Kong and Osei (2019) in Ghana; Nassar (2016) in Turkey; Vatavu (2015) in Romania; Magoro and Abeywardhana (2017) in South Africa; Tauseef, Lohano and Khan (2015) in Pakistan; Alhassan and Islam (2021) in Nigeria among others all of which were done in regulatory environments different from Kenya and it is not clear if the findings from those studies can be generalized to Kenya. Even those done in Kenya have been done to the exclusion of the manufacturing companies in the building and construction sector and it is not clear if the findings from those sectors can be generalized to the building and construction sector. Examples of these include Mboi, Muturi and Wanjare (2018) in the SMEs sector; Shikumo, Oluoch and Wepukhulu (2020) for public non-finance companies and Irungu, Muturi, Nasieku and Ngumi (2018) for listed companies at the listed companies at the Nairobi Securities Exchange, NSE among others. The emergent gap is lack of clarity as to how asset and liability management influences the performance of manufacturing companies in the building and construction sector in Kenya.

2.7 Summary

The summary provides conclusions arrived at in the process of the literature review for this study. The conceptual conclusion arrived at is that there are four concepts of the study. These are asset management, liability management, quality of financial reporting and financial performance. Asset management can be evaluated through the use of turnover ratios or asset structure ratios. Liability management can equally be appraised through the use of liability turnover ratios or liability structure indices. The quality of financial reporting reflects the usefulness of financial information for decision making and focuses mainly on the relevance and reliability of the information such that when analyzed from a timeliness point of view financial reporting lag and financial reporting lag ratio show how soon financial reports are released following the end of the financial year end. Ultimately, financial performance of business entities can be represented using profit margin ratios or return ratios and that return ratios are the most commonly used in this representation with return on assets (ROA) and return on equity (ROE) being the most popularly used in empirical research dealing with financial performance of businesses.

The theoretical conclusion arrived at from the study is that there are numerous theories that can be used to explain how the management of assets and the management of liabilities affects the financial performance of business entities. Their explanatory power is also wide and varied. The MM capital structure theory of Modigliani and Miller (1958) predicts a zero correlation between financial performance as financial structure of current assets and liabilities while the tradeoff theory of Gitman (1974) predicts that financial performance is directly related to the proportion of current liabilities and current assets in the liability structure and asset structure respectively. The asset finance matching theory of Sagan (1955) and the agency theory of Jensen and Meckling (1976) on the other hand point to varying outcomes on the effect of asset and liability management depending on the managerial orientation towards risk and private objectives.

Empirically, it can be concluded that there are a variety of studies that have been done both in Kenya and in other countries in Africa as well as globally. The studies have arrived at confounding conclusions with some predicting that assets management has a positive effect on financial performance (like Njeru, 2016; Irungu, Muturi, Nasieku & Ngumi, 2018; Purba & Bimantara, 2020); others indicating that asset management has a negative effect on financial performance (like Waswa, Mukras & Oima, 2018;), liability management has a positive effect on performance(like Shikumo, Oluoch & Wepukhulu, 2020) and that liability management has a negative effect on financial performance (like Raisa & Cristian, 2015; Nassar, 2016; Magoro &Abeywardhana, 2017; Alhassan & Islam, 2021). Others indicate zero impact of management of liabilities or assets on performance (like Hassan, Muturi & Mberia, 2017; Al-Ani, 2013; Musah, Kong & Osei, 2019; Vatavu, 2015).

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter lays out the approach by which the data in this study is not only collected but also cleaned and analyzed in order to test the hypotheses stated in Chapter one. It not only sets out the research philosophy under which the research is undertaken and the corresponding research design, but it also lays out the approach to testing the hypotheses as based on the laid out analytical model and test statistics. It borrows from the description by Gujarati (2011) that research design sets the overall tone of the research and the reliability of the eventual study findings. It is separated into six major sections outlining the research philosophy, the research design, population, sample and sampling approaches, data and data collection techniques as well as the mechanism of analyzing the data for both from the inferential and descriptive points of view.

3.2 Research Philosophy

The research philosophy adopted in this research is the positivism approach. Fisher (2017) asserts that this philosophy also called the pragmatic approach is the most appropriate when carrying out scientific research. In this respect, the purpose of this study is to establish the influence of management of assets and liabilities on the financial performance of manufacturing firms in the building and construction sector in Kenya. Under the positivistic philosophical approach, hypotheses are set on the basis of the existing relevant theories. Then these hypotheses are tested and approved or disapproved by quantitative and statistical methods in order to answer the research objectives and accomplish the research purposes. Fisher (2017) claimed that the final result of such research can be applicable through the positivist approach.

The principles of positivism include; an observable social reality is preferred to be studied and only observable phenomena produce credible data (Fisher, 2017). The

purpose of theory is to generate hypotheses that can be tested. The role of research is to test theories and to provide material for the development of laws (Gujarati, 2011). As such, generalizations similar to those that are produced by natural scientists, and positivism emphasizes quantifiable observations that are used for statistical analysis (Peck, Olsen, & Devore, 2015)

Positivism philosophy fits well in this study for a number of reasons that have been well articulated by Fisher (2017). Firstly, this study is scientific in nature commencing with problem identification, carrying out literature review for hypothesis formulation, collecting and analyzing data before conclusions are arrived at. Secondly, it is based on objectively verifiable data from secondary sources and collected from financial statements. This data relates to asset structure, liability structure, sales, fixed assets turnover, long term liabilities, shareholders equity, financial reporting lag, net profits and long term liabilities turnover. Finally, it relies on statistical tools and econometric panel models both at bivariate levels and multivariate levels to test hypotheses and arrive at verifiable and generalizable findings. Hence it perfectly fits in the positivist approach to research.

3.3 Research Design

Research design is the overall conception of the study including description of all concepts, variables and categories, the relational propositions and methods of data collection and analysis (Fisher, 2017). It is the blueprint for the gathering, measuring, and analyzing of data. The choice of the research design depends on how much is already known about the research problem. This study adopts a causal survey research design approach. The design is causal because it aims to establish the causality relationship between the management of assets and liabilities on one hand and the financial performance of the manufacturing companies in the building and construction sector in Kenya on the other. It is a survey because it relies on a number of companies in the industry to represent the population while simultaneously picking on a representative period of 5 years running from 2016 to 2020.

The causal survey is therefore based on panel data analysis that have both time series attributes and cross sectional attributes of the study units. The design is cross sectional because it obtains data from all the relevant 44 manufacturing firms in the building and construction sector. It is also time series because for each of the study units, data about their management of assets and liabilities, the financial reporting lags and their financial performance is collected and analyzed for each of the five years in the study. This research design is deemed fit since it allows for use of secondary data which is obtained from the financial statements of the manufacturing firms in the building and construction sector in Kenya.

Research design is a process that the researcher follows from inception to the completion of a study. Fisher (2017) refers to research design as the structure that guides the execution of a research method, and the subsequent analysis of acquired data. A research design is the arrangement of condition from collection and analysis of data in a manner that aims to combine relevance to the research purpose with economy in procedure (Fisher, 2017).

The research design adopted for this study is versatile because it enables analysis of the separable and joint effect of asset and liability management on financial performance of manufacturing firms in the building and construction sector in Kenya. In addition, it allows to check how these causal relationships are separately and jointly moderated by the quality of financial reporting, being the timeliness of financial reports as represented by the financial reporting lag and the financial reporting lag ratio.

3.4 Study Population

According to Sharp et al. (2017), population refers to a large collection of individuals or objects having common characteristics. Of the 813 firms registered under the Kenya Association of Manufacturers (KAM), 102 fall in the building and construction sector of which 56 are manufacturing firms in this sector. For the purpose of this study, the study population comprises of the all the 56 manufacturing firms in the building and

construction sector operating in Kenya for the period 2016 to 2020. These companies are chosen because it has been established that the manufacturing sector plays a critical role in the overall economic welfare of Kenya as a country yet the sector has been characterized by a very low level of productivity and profitability (The Kenya Chamber of Commerce and Industry, KNCCI, 2021).

3.5 Sample and Sampling Frame

Sampling frame is a (physical) representation of all the elements in the population from which the sample is drawn (Fisher, 2017). Specifying the sample frame is crucial as it itemizes all items in the population from which a sample is obtained to test the research hypotheses. The sampling frame is provided by the Kenya Association of Manufacturers (KAM) and itemizes all companies in that sector for all the periods of the study. It is critical to identify a sampling frame because it provides the basis for objective sampling in order to provide objective, verifiable and generalizable findings post the study.

A census of all the companies that are registered under manufacturing firms in the building and construction sector in Kenya registered under KAM was used. This was subject to availability of all the data for the five years under consideration, being basically the annual reports and the audit reports from which the data was collected. It was assumed that the largest companies in this sector are the ones that are listed under KAM and hence this did not include the companies that operate in the information sector of this industry. The other condition that the companies were subjected to is that they must have 31st of December as the year end date so that the computation of the financial reporting lag could be consistent for all the study firms. After excluding from the list the missing data companies, and the non-31st of December year date companies, the left sample had a total of 44 companies as indicated in Appendix I.

3.6 Data and Data Collection Methodology

Table 3.1 shows that data required for each of the variables and the respective sources of the data. It also indicates the variable for which each data item is required.

Table 3.1: Research Data and Data Sources

Variable	Variable Type	Data Specification	Data Source
Current Asset Management	Independent	• Current Assets • Total Assets	• Balance Sheet • Balance Sheet
Current Liability Management	Independent	• Current Liabilities • Total Liabilities	• Balance Sheet • Balance Sheet
Non-current Asset Management	Independent	• Sales • Total fixed assets	• Income Statement • Balance Sheet
Long Term Liability Management	Independent	• Sales • Total long term Liabilities	• Income Statement • Balance Sheet
Quality of Financial Reporting	Moderating	• Financial Year End • Financial reporting Date	• Annual Report • Balance Sheet
Financial Performance	Dependent	• Net Profit • Shareholders' funds	• Income Statement • Balance Sheet

The data used in this study is secondary data derived from the financial statements of the manufacturing companies in the building and construction sector in Kenya. The data was collected using a secondary data collection sheet. The relevant data was for each of the companies in the study for each of the 5 years under consideration being 2016 to 2020.

With respect to objective 1 where it was necessary to collect data on the management of assets, the data collected was adequate to compute the current asset structure (CAS), the proxy for the management of current assets. The collected data in this case was current assets and total assets. As for objective 2, where management of current liabilities was the target, data on current liabilities and total liabilities was adequate in determining current liability structure (CLS), the proxy for current liability management

As for objective 3 that was concerned with management of noncurrent assets, fixed assets turnover (FAT) was the indicator proxy and to help determine this, data on total fixed assets as well as sales was collected. With respect to objective 4 in which it was necessary to show the management of long term liabilities, data necessary for computing long term liabilities turnover (TLT) was needed in which case the collected data was sales from the income statement and total long term liabilities from the statement of financial position was collected.

The dependent variable was return on equity which relates earnings after tax and shareholders' equity. To this extent, the collected data was net profit after tax as indicated in the respective profit and loss accounts for each of the five years and the total shareholders' equity at the end of the respective years. Return on equity was preferred to return on assets since assets are but of the dependent variables and could not be represented both on the independent side and the dependent side of the regression equation.

The moderating variable was timeliness of financial reporting that reflected the quality of financial reporting and was represented by the financial reporting lag. This is taken as the number of days that lapse between the end of the financial period and the day. Consistent with Arianpoor (2019), the financial reporting date is considered as the date the statutory audit is signed and released. Accordingly, the date the audits were signed in the annual report was considered to be financial reporting date. The secondary data collection sheet used in collecting all the data is provided in Appendix II.

3.7 Data Processing and Analysis

Before analysis, the raw data was transformed in order to measure the variables specified in the study. This section provides the procedures that were used in the process of cleaning the data and then processing it for hypothesis testing in order to arrive at the research conclusions.

3.7.1 Model Specification

Analysis in the study was done at four levels. The separable bivariate analysis of the relationship between the management of assets and liabilities on one hand and financial performance on the other; the moderated separable bivariate analysis of the moderating influence of the quality of financial reporting on the effect of asset and liability management on financial performance; the multivariate analysis of the joint effect of asset and liability management on financial performance and the moderated joint analysis of the of the moderating influence of the quality of financial reporting on the joint effect of asset and liability management on financial performance. Accordingly for generic models are specified to fulfil these analyses.

With respect to the bivariate analysis of each of the asset and liability management indicators and how they affect financial performance, a panel regression of return on equity (the indicator of financial performance) was done on the asset and liability inidicators as reflected in panel regression model 1.

$$ROE_{i,t} = \beta_0 + \beta_1 ALMI_{i,t} + e_{i,t} \quad ------------------- (1)$$

Here:

ROE is return on equity

ALMI is the asset and liability management indicator which were 4 being CAS, CLS, FAT and TLT

CAS is the current asset structure

CLS is the current liability structure

FAT is the fixed assets turnover ratio

TLT is the long term liability turnover ratio

The second generic model used in the study was the one used to evaluate the separable moderating influence of the bivariate effect of each of the asset and liability indicators on financial performance. This model is represented in equation (2).

$$\text{ROE}_{i,t} = \beta_0 + \beta_1 \text{ALMI}_{i,t} + \beta_2\big(m * \text{ALMI}_{i,t}\big) + e_{i,t} \; ----------- (2)$$

The moderating variable was taken as the quality of financial reporting as based on the financial reporting lag and financial reporting lag ratio. The third model as represented in equation (3) indicated the joint effect of all the indicators of asset and liability management on financial performance of the manufacturing firms in the building and construction industry in Kenya.

$$\text{ROE}_{i,t} = \beta_0 + \beta_1 \text{CAS}_{i,t} + \beta_2 \text{CLS}_{i,t} + \beta_3 \text{FAT}_{i,t} + \beta_4 \text{TLT}_{i,t} + e_{i,t} \; --------(3)$$

The final model was based on the moderating influence of the quality of financial reporting on the joint effect of all the indicators of asset and liability management on financial performance of the manufacturing firms in the building and construction industry in Kenya. This panel regression equation is represented in equation (4).

$$ROE_{i,t} = \beta_0 + \beta_1 CAS_{i,t} + \beta_2 CLS_{i,t} + \beta_3 FAT_{i,t} + \beta_4 TLT_{i,t} + \beta_i (M * ALMI_{i,t}) + e_{i,t} \quad (4)$$

3.7.2 Variable Measurement

In order to use the current asset, non-current asset, current liabilities and long term liability indicators as well as the moderating variable and the dependent variable in the analysis they had to be measured and operationalized. In this case six variables were measured. The measures are as provided in Table 3.2.

The first variable to be measured was the management of current assets. The measurement was based on the management policy on the value of current assets to be held on a balance sheet. In this case current asset structure (CAS) was used as the proxy and it was measured as the ratio of current assets to total assets as recommended by Seru and Sufi (2021).

The variable to be measured was the management of current liabilities. The measurement was based on the management policy on the value of current liabilities used in financing assets and operations. In this case current liability structure (CLS) was used as the proxy and it was measured as the ratio of current Liabilities to total liabilities as recommended by Seru and Sufi (2021).

Table 3.2: Variable Measurement

Variable	Variable Proxy	Proxy Measurement
Current Asset Management	Current Asset Structure	$CAS = \dfrac{Current\ Assets}{Total\ Assets}$
Current Liability Management	Current Liability Structure	$CLS = \dfrac{Current\ Liabilities}{Total\ Liabilities}$
Non-current Asset Management	Fixed Assets Turnover	$FAT = \dfrac{Sales}{Total\ Fixed\ Assets}$
Long Term Liability Management	Term Liability Turnover	$TLT = \dfrac{Sales}{Long\ Term\ Liabilities}$
Quality of financial Reporting	Reporting Lag Ratio	$RLR = \dfrac{Reporting\ Lag}{365}$
Financial Performance	Return on Equity	$ROE = \dfrac{Net\ Profit}{Shareholders'Equity}$

The third variable to be measured was the management of non-current assets. The measurement was based on the management policy on the efficiency and effectiveness with which fixed assets are used to generate sales. In this case fixed assets turnover (FAT) was used as the proxy and it was measured as the ratio of sales to total fixed assets as recommended by Oluoch (2014).

The fourth variable measured was the management of long term liabilities. The measurement was based on the management policy on the efficiency and effectiveness with which long term liabilities are used to generate sales. In this case long term

liabilities turnover (TLT) was used as the proxy and it was measured as the ratio of sales to total long term liabilities as recommended by Oluoch (2014).

The fifth variable measured was the moderating variable which was based on the quality of financial reporting. Attia, Lassoued and Sassi (2019) indicate that there are various indicators of quality of financial reporting one of which is the relevance of provided information as described by its timeliness, forecast value and control value. Following Attia, Lassoued and Sassi (2019), timeliness was used to describe the quality of financial reporting and it was indicated by the financial reporting lad and measured by the financial reporting lag ratio.

The last variable measured in the study was the dependent variable which was identified as financial performance. Whereas there are income oriented and balance oriented measures of financial performance, literature had revealed that the most commonly used are return on assets (ROA) and return on equity (ROE). Since some of the dependent variables had elements of assets, to avoid multicollinearity problems, return on equity was chosen for the study. It was measured as the ratio of net profits to the shareholders' equity as reported on the balance sheet date.

3.7.3 Model Diagnostic Tests

The data set in this research has both time series properties (it runs for five years from 2016 to 2020) and cross sectional properties (it cuts across a section of 44 manufacturing companies in the building and construction sector in Kenya). Accordingly, the most appropriate model for use in analysis is one that combines both aspects of data analysis which is the panel data modeling. To be able to use the model, a number of assumptions are made and diagnostic tests are needed to ensure the data complies with these assumptions otherwise remedial measures are needed before the model is applied (Gujarati, 2011).

The first diagnostic testing done is the model specification tests in order to choose whether to use a fixed effects, random effects or pooled panel regression. Hausman specification test is used in this case with the null assumption that the best model for analysis is the random effects model. The testing is done at 0.05 level of significance and if the Hausman P-value falls below 0.05, the hypothesis is rejected such that the fixed effects model is adopted. Where not applicable, the pooled model would apply.

In testing normality, the null hypothesis is that the residuals of the panel regression model are normally distributed; against the alterative hypothesis the residuals are not normally distributed. Normality of residuals is critical since lack of normality mean that the estimates and significant levels of the results are inefficient and are not reliable. In this research, the Shapiro Wilk test is used to test for normality of the residuals. If the p-value (significant value) > 0.05, then the residuals are normally distributed, otherwise if the value is < 0.05, then the null hypothesis is rejected, implying that the residuals are not normally distributed (Fisher, 2017).

Linearity was tested to determine the relationship between independent and dependent variables. If the deviation from linearity is > 0.05, then the dependent and independent variables are linearly dependent while if < 0.05 there is no linear relationship. Test of linearity is essential since it ensures that the appropriate model is fitted to the data. When this assumption is violated fitting the non-linear data to a linear model provides unreliable results and that lead to invalid conclusions. If this assumption is violated, the study is to conduct a nonlinear transformation to the independent and dependent variables as suggested by Fisher (2017).

Since the study has time series properties, the assumption of time independence of variables was also to be tested. Variables are said to be time independent is there in no serial correlation of the data from one period to the other. Fisher (2017) asserts that this is also called auto-correlation. To ensure serial independence of the data, the Durbin-Watson d-statistic was used with the null hypothesis that data set has statistically significant levels of autocorrelation. This null hypothesis is rejected if the Durbin-

Watson d-statistic approximates 2 in which case it is concluded that the data is devoid of any statistically significant autocorrelation problem.

The model stability and suitability is being used in the panel data regression was tested using the F-test as suggested by Peck, Olsen and Devore (2015). The null hypothesis in this case is that the model is unstable and thereby not consistent in proving reliable results and does not fit the data well. The statistical check is to compare the model output F-statistic with the level of significance for that statistic. The null hypothesis is rejected if the output F is greater than the significant F in which case the model fits the data very well and valid conclusions can be made from the analysis.

The model also assumes homoscedasticity. Homoscedasticity describes a situation in which the error term (that is, the "noise" or random disturbance in the relationship between the independent variables and the dependent variable) is the same across all values of the independent variables (Fisher, 2017). This assumption means that the variance around the regression line is the same for all values of the predictor variable (X). The assumption of homoscedasticity (meaning "same variance") is central to linear regression models. Heteroscedasticity has implications for linear regression because it leads to biasness of the standard errors. Since standard errors are central to conducting significance tests and calculating confidence intervals, biased standard errors lead to incorrect conclusions about the significance of the regression coefficients. If heteroscedasticity is present, this bias is corrected using robust standard errors. In this study, the null hypothesis is that the error term is heteroscedastic and this is tested using the Breuch-Pagan tests at 0.05 level of significance. The hypothesis is rejected if the statistic has a value greater than 0.05 in which the error term is concluded to be homoscedastic. In the multivariate set-up, multicollinearity, the degree of influence among the independent variables is tested using multiple correlation analysis at 95% confidence interval.

It is only after the data and model fit all the assumptions above that further inferential analysis is undertaken in order to test the hypotheses of the study. For the purposes of

analysis, these diagnostic tests are applied at all the four levels of analyses i.e the bivariate analysis of the separable effect of asset and liability management on financial performance; the multivariate analysis of the joint effect of asset and liability management on financial performance; the moderated bivariate analysis of the moderating influence of the quality of financial reporting on the separable effect of asset and liability management on financial performance and the moderated multivariate analysis of the moderating influence of the quality of financial reporting on the joint effect of asset and liability management on financial performance.

3.7.4 Descriptive Analysis

Descriptive statistics are used in establishing the physical patterns of variables and phenomena and are therefore are concerned with measures of central tendency as well as measures of dispersion that describe the nature of the properties. For this study, the mean and the median are used to establish the measures of central tendency. With respect to dispersion properties of Current Asset Structure, Current Liability Structure, Fixed Assets Turnover, Term Liability Turnover, Reporting Lag Ratio and Return on Equity, standard deviation, the minimum, the maximum and range are used. As a composite of both the measures of central tendency and measures of dispersion, the coefficient of variation (CV) is used in this respect. It is taken as the ratio of standard deviation of the mean of the variable and indicates the average variability per unit of the variable of interest as explained by Fisher (2017). The coefficient of variation is therefore an eclectic measure that indicates both central tendency and dispersion attributes.

3.7.5 Tests of Hypotheses

The generis hypothesis suggested for this study was that the management of assets and liabilities has no significant influence of the financial performance of manufacturing companies in the building and construction sector in Kenya. In order to test this hypothesis at all the four levels indicated in section 3.7.3, the t-statistic is used to test the

significance of the coefficients for each of the asset, liability and moderating variable indicators. This is done at 95% confidence interval. The relevant null hypothesis is rejected if the output t-value from the panel data regression analysis is greater than the critical t-value from the student t distribution for the 220 observations (44 companies for 5 years) and appropriate degrees of freedom depending on the model under test be it bivariate, multivariate or moderated panel analysis model. To supplement the t-test, p-value is also used in testing the hypotheses at 0.05 level of significance and the coefficient is deemed statistically significant when its p-value is less than the critical value of 0.05.

R-Square is used in telling the coefficient of determination. This reflects the percentage changes in the dependent variable occasioned by the changes in the independent variables of the study. To supplement the hypotheses tests, correlation analysis is carried out, which though not a cause-effect statistic, it shows the degree and nature of association between the dependent and the independent variables.

CHAPTER FOUR

FINDINGS AND DISCUSSION

4.1 Introduction

This study was meant to establish the effect of asset and liability management on financial performance of manufacturing companies in the building and construction sector in Kenya. It further was to check if this relationship is moderated by the quality of financial reporting as indicated by the financial reporting lag. The analysis was done at various levels. These were firstly the descriptive level where the nature of the six variables was established. These variables were current asset structure that indicates current asset management; current liability structure that shows current liability management; non-current assets (fixed assets) turnover that represented the management of non-current assets; the long term liability turnover that showed the management of long term liabilities; the financial reporting lag and financial reporting lag ratio that indicated the quality of financial reporting and the return on equity that is the indicator of financial performance. At the descriptive level, both measures of dispersion and central tendency were used culminating in the coefficient of variation, which is a composite measure.

At the second level of analysis, there was bivariate regression of the financial performance on each of the independent variables. This was done after ensuring through diagnostic tests and related adjustments that the panel model was suitable for evaluation. Still at the second level, the moderation effect of financial reporting lag was done for each of the four bivariate relationships. AT the final level of analysis was multivariate regression in which the combined effect of current assets management, current liability management, non-current asset management and long term liability management. Still at this third level, the moderating effect of financial reporting lag was also established. The findings of the study and the discussion thereof are indicated in the sections that follow in this chapter.

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4.2 Descriptive Analytical Findings

The data was captured for 44 cross sectional firms over a five year period to form panel data sets of 220 observations. The descriptive statistics are presented in this section and they culminate coefficient of variation that shows the composite nature of the variables both for central tendency and dispersion.

4.2.1 Return of Equity Descriptive Statistics

Return on equity (ROE) was used as the dependent variable showing the financial performance of manufacturing companies in the building and construction sector in Kenya. Table 4.1 shows the descriptive findings with respect to return on equity.

Table 4.1: Return on Equity Descriptive Statistics

Mean	0.119680
Standard Error	0.001747
Median	0.119936
Standard Deviation	0.025915
Coefficient of Variation	0.216536
Range	0.310079
Minimum	-0.135830
Maximum	0.174251
Count	220

For return on equity, the returns range from a loss of 13.58% (the minimum) to a profit of 17.43% (the maximum) having registered a mean of 11.97%. The relatively low level of profitability could be attributed to the high cost of doing business in Kenya especially with respect to manufacturing as has also been registered by Were (2016) who underscored the high cost of production given the high cost of direct inputs and production overheads. The Kenya Chamber of Commerce and Industry (2021) has also given this as the biggest concern for the manufacturing sector in Kenya. The findings on ROE also indicate high levels of volatility as shown by the CV of 0.2165. This implies

that for every unit of return as indicated by ROE, there is would to be variability of 0.2165 which is 21.65% variability.

Outside of the individual companies, the descriptive analysis involved checking the industry trend as well as the cross sectional patterns of the ROE of manufacturing firms in the building and construction sector in Kenya. The findings are indicated in figures 4.1 and 4.2 respectively. The average trend in the industry in figure 4.1 shows a trend that is relatively stable with a peak in 2018 and all the rest of the years having an industry average return of above 10%. This is indicative of a stable industry albeit one that is having low levels of performance given that the performance is barely different from the 364 treasury Bond rate which Central Bank of Kenya, CBK (2021) indicates as an average of 11.676%; 10.944%; 10.371%; 9.487% and 8.563% for the respective years of 2016 to 2020. The cross sectional ROEs for the 44 companies in the study are indicated in figure 4.2.
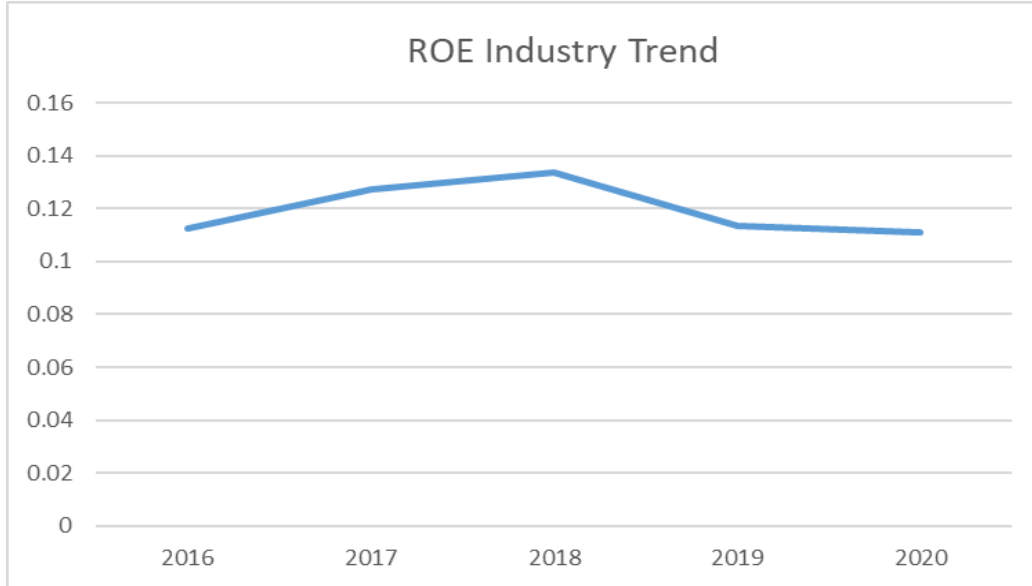
Figure 4.1: Return on Equity Industry Mean Trend

The CBK (2021) rates comparison implies that the industry did not overly out-perform the risk free rates and could have failed to take to account the risk of investing in the manufacturing companies in the building and construction sector in Kenya.
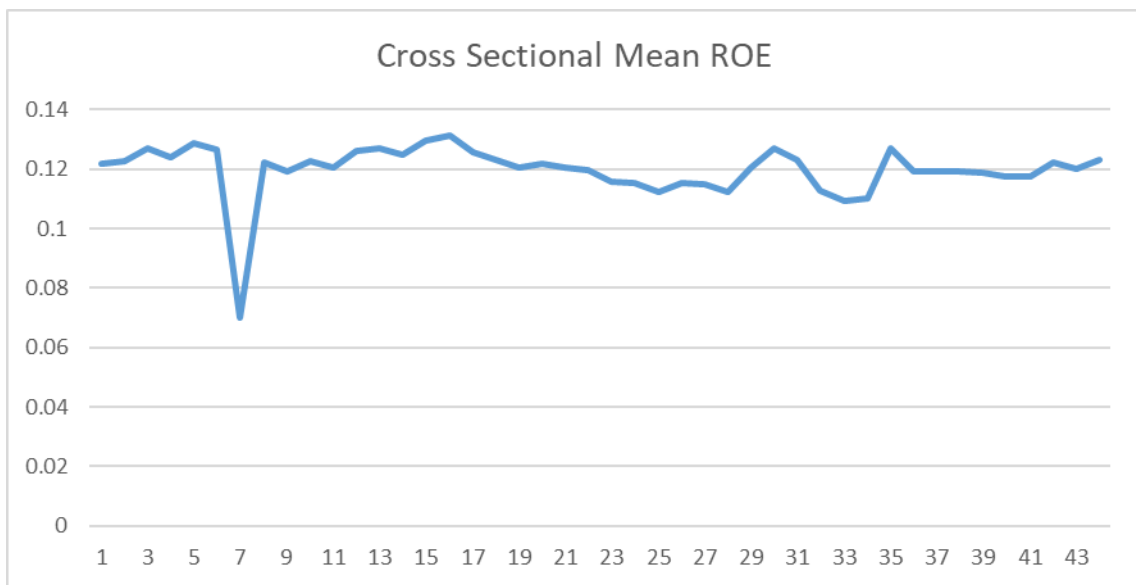
Figure 4.2: Return on Equity Industry Cross-Section Mean Patterns

Consistent with industry time series performance, the figure 4.2 shows that most of the companies perform almost at the same level of between 10% and 13% except for one company whose performance have a mean value of around 7%. This is consistent with the finding of an average performance when a comparison is made against the 364 TB rate which is an annual yield bond similar in financial reporting time of the manufacturing companies evaluated in this study.

4.2.2 Current Asset Structure Descriptive Statistics

For the current asset management as indicated by the current asset structure, the descriptive statistics are indicated in table 4.2. The mean is a value of 0.359382 which indicates that on average these companies invest 36% of their assets in current assets being inventory, cash, prepayments, receivables and similar other assets. There is however a very high variability as indicated by a minimum of 28.53% and a maximum of 60.01 percent investment in current assets.

Table 4.2: Current Asset Structure Descriptive Statistics

Mean	0.359382
Standard Error	0.002131
Median	0.360062
Standard Deviation	0.031603
Coefficient of Variation	0.087937
Range	0.314868
Minimum	0.285274
Maximum	0.600141
Count	220

The results are consistent with those of Yahaya, Kutigi, Solanke, Onyabe and Usman (2015) who noted that investment in current assets is wide and varied but manufacturing firms have heavier investment in current assets especially with respect to inventories and receivables. With a standard deviation of 0.031603, it translates to a coefficient of

variation (CV) of 0.08794 indicating a very stable level of the asset structures across the industry that for every unit of CAS, there was bound to be a periodic deviation of only 0.09 over time and cross-sectionally.

The stability indicated by the CV is also reflected in the industry time series trends over the five years of study as reflected in in figure 4.3.
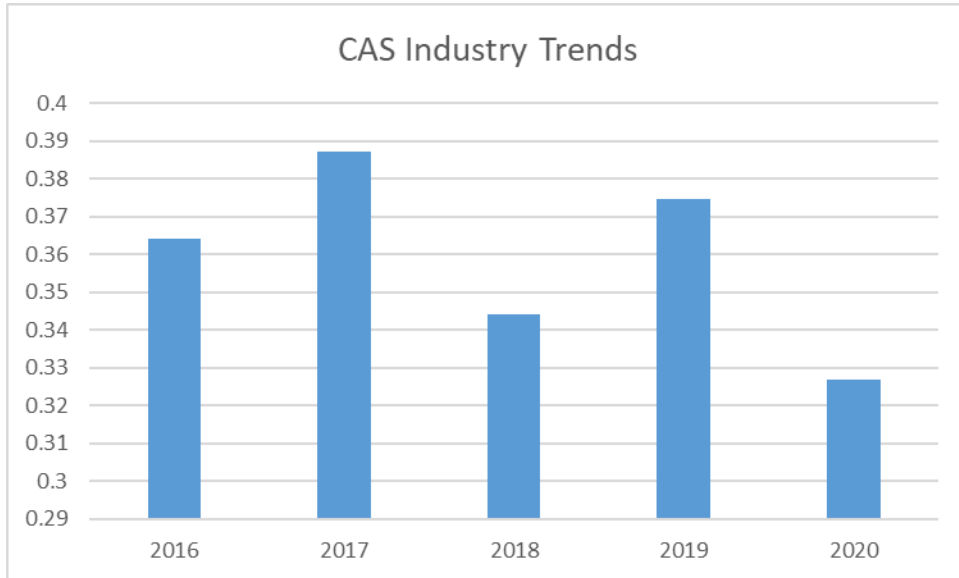
Figure 4.3: Current Asset Structure Industry Mean Trend

The figure 4.3 reflects the mean industry trends of 36.42, 38.71, 34.41, 37.46 and 32.69. The reduced ratio of current assets to total assets in 2020 could be as a consequence of COVID-19 pandemic where the production levels fell considerably and since non-current assets take time to response to changes in production, the CAS is observed to have dropped for the year 2020 when Kenya and other countries where under lockdown as indicated by Kenya National Chamber of Commerce and Industry (KNCCI, 2021). The cross sectional mean averages for the 44 companies in the study are indicated in figure 4.4
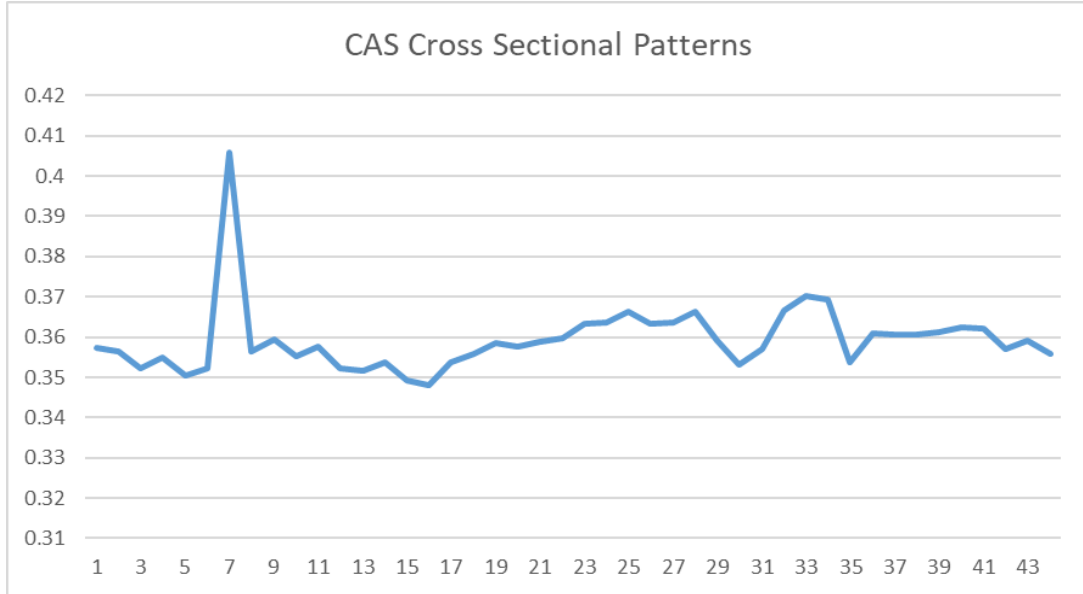
Figure 4.4: Current Asset Structure Industry Cross-Section Mean Patterns

Just like for the case of return on equity, the values are also reflective of the industry time series trends that is indicated in figure 4.3. The cross sectional patterns indicate that the firm with the lowest mean of CAS reported 34.79% while that with the highest mean was reported at 40.6%.

4.2.3 Current Liability Structure Descriptive Statistics

The second independent variable in the structure related to current liability management and was indicated by current liability structure, the ratio of current liabilities to total liabilities. The descriptive statistics for the 220 panel data observations is indicated in table 4.3 for current liability structure.

Table 4.3: Current Liability Structure Descriptive Statistics

Mean	0.106933
Standard Error	0.001288
Median	0.106136
Standard Deviation	0.019102
Coefficient of variation	0.178635
Range	0.091502
Minimum	0.068949
Maximum	0.160451
Count	220

With respect to current liability structure, the minimum proportion of current liabilities in the structure is 6.89% while the maximum is 16.05% percent. The mean is presented as 10.69%. Based on the trade-off theory of Gitman (1974) it can be observed that the risk appetite of firms in this sector is generally very low given that the average proportion of current liabilities to total liabilities is 10.7%. These findings are in line with those of Cheng (2010) who found that unlike Anglo-American and other companies from the west, companies in China are generally risk averse. The implication is that despite the heavy working capital requirements among the building and construction companies, those in Kenya generally rely on medium and long term finances to finance their businesses. It may also be that they generally sell on cash basis and barely rely on trade credit in the financing of inputs and that they pay salaries and other associated expenses on time.

The cross-industry time series trend of the current liability structure can be used to corroborate the findings in table 4.3. The trend is indicated in figure 4.5.
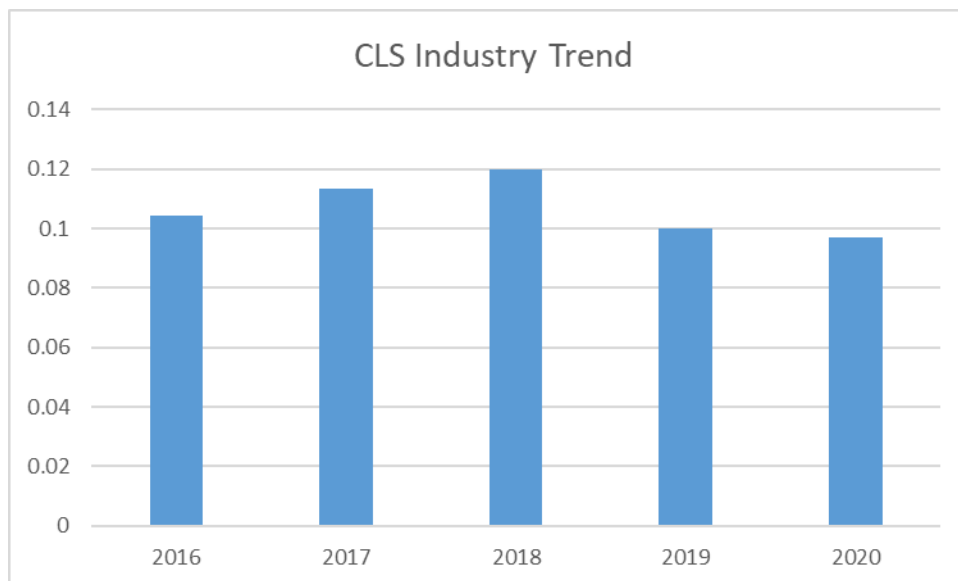
Figure 4.5: Current Liability Structure Industry Mean Trend

This could partly explain the low profitability that is reported in table 1 based on return on equity. When the time series and cross-sectional volatility of current liability structure is evaluated on the basis of the coefficient of variation (CV), the findings from table 1 indicate a value of 0.1786. This indicates a relatively stable level of current liability structure. This could be explained by the focus companies which are relatively large compared to the typical companies in the sector. The results in figure 4.5 show that in 2016, the industry average CLS was 10.45%. This then increased to 11.35% in 2017 and 11.98 in 2018. The values eventually tapered down to 9.99% in 2019 and 9.70% in 2020 indicating a reduction in the trend of CLS structure.

The nature of the analysis implied that the cross sectional patterns also be evaluated for the CLS for all the 44 companies as a mean over the five years of evaluation. The cross sectional company mean values for the sample companies are indicated in figure 4.6. The figure provides the lowest cross sectional mean of 6.142% and the highest cross sectional mean of 13.432%. This translates to a range of 7.29%. These may be as a consequence of the approaches to financing the assets of the company just like Ukhriyawati, Ratnawati and Riyadi (2017) indicates, the way financing of assets is a

function of the risk attitude of the company of concern. The company with a current liability ratio of 6.142% could be said to be financing the rest of the assets (outside of equity) using long term liabilities which is 93.858%. This is the most conservative company in the entire sample. On the other hand, the highest CLS value of 13.432% implies long term liabilities finance (outside of equity) finance 86.568%. This could be identified as more of a risk taker than risk verse in the frame of Ukhriyawati, Ratnawati and Riyadi (2017).
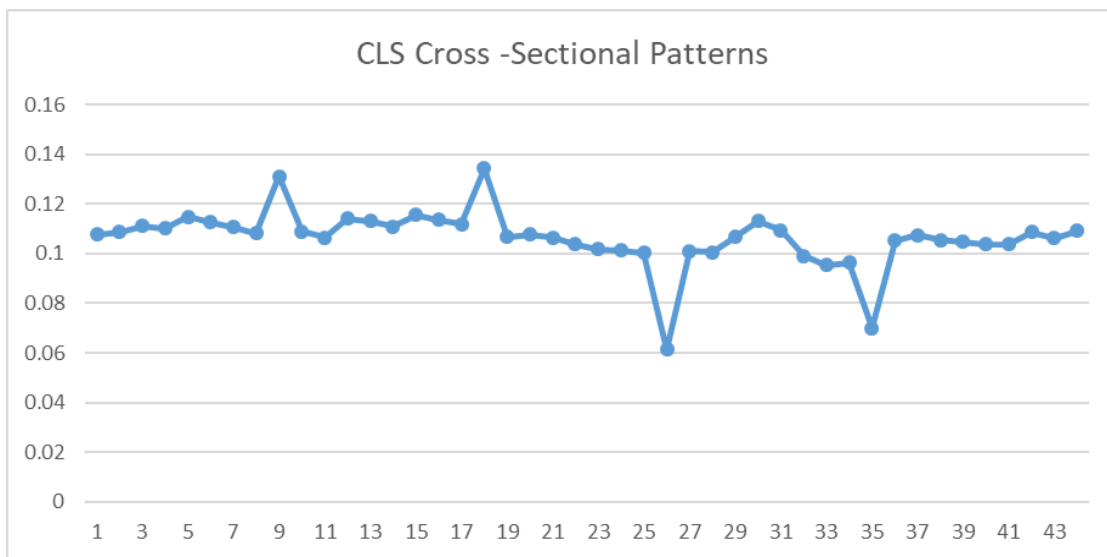
Figure 4.6: Current Asset Structure Industry Cross-Section Mean Patterns

The attitude towards risk and the risk profile is reflected in the liability structure adopted by the business (Ukhriyawati, Ratnawati & Riyadi, 2017). The three main strategies that are therefore used in the financing of assets using the available liabilities. These are the aggressive approach (highest CLS), the hedging approach (moderate CLS) and the conservative approach for the lowest CLS as indicated in figure 4.6.

4.2.4 Fixed Asset Turnover Descriptive Statistics

To avoid the problem of multicollinearity, the non-current asset management was represented by fixed assets turnover as opposed to fixed asset structure simply because

fixed asset structure is the opposite of current asset structure as per Oluoch (2014) and the sum of the two are mutually exclusive and collectively exhaustive. The descriptive findings of fixed asset turnover are reflected in table 4.4. Just like for the case of current asset management, fixed asset management has an implication on the risk return trade-off and therefore profitability.

The findings in table 4.4 reveal that the mean of fixed assets turnover the panel of 220 observations on 44 companies over the 5 year period of 2016 to 2020 was 0.3298 times. The standard deviation was established at 0.0794 times. This translates to a coefficient of variation of 0.2407. With a maximum of 0.5307 times and a minimum value of FAT of 0.3509 times, the implication is that the industry has very heavy investment in noncurrent assets and that it is hard to have companies translating more than their book value of assets into sales in any given financial accounting period. This heavy investment in

Table 4.4: Fixed Assets Turnover Descriptive Statistics

Mean	0.329817
Standard Error	0.005352
Median	0.325986
Standard Deviation	0.079384
Coefficient of Variation	0.240691
Range	0.881593
Minimum	0.350891
Maximum	0.530702
Count	220

Non-current assets is critical because manufacturing companies in general and those in the building and construction industry are often characterized by high asset tangibility as persuasively argued by Kumar and Ranjani (2018). These types of companies rely on heavy plant, equipment, property and machinery to help in the conversion process of raw materials into finished output hence their asset structure is expected to have high proportions of non-current assets.

Again from table 4.4, the coefficient of variation of 0.2407 implies that for every unit of fixed asset turnover, there is bound to be a variability of 24.07% on either side of this mean implying a volatility of almost a quarter of the mean over the five year period and 44 companies for the 220 panel observations in the 2016-2020 period. This can be contrasted with the CV for current asset structure of 8.79% and the current liability structure of 17.86% all of which are lower than the non-current asset turnover CV. These could be attributed to the long term asset contracts some of which involve leasing agreements and that these are bound to fluctuate widely. In addition, the depreciation expense policy is bound to have a big effect on the net book values of plant, machinery, property and equipment at the end of every financial years as argued by McLaney (2017).

The financial asset turnover was also presented for the industry on the time series basis over the 5 year study period. The findings are reflected in figure 4.7. From the observations on the trend attributes of FAT over the five years, figure 4.7 indicates that the highest trend values were reported in the year 2018 while the lowest trend values were reported in the year 2020 with the rest of the years falling between these two extremes. It may not be a coincidence that the year 2020 is reporting the least time series average values given that it the year in which manufacturing activity was heavily affected by the on-set of the Covid-19 pandemic.
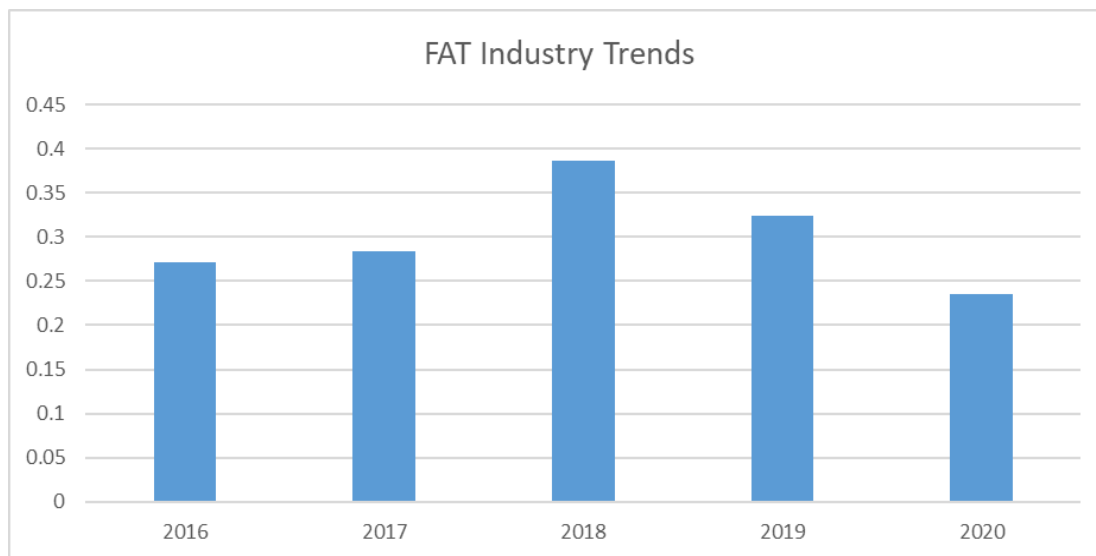
Figure 4.7: Fixed Assets Turnover Industry Mean Trend

In fact Nechor et al. (2020) shows that the pandemic had serious economic impact in Kenya and affected all sectors leading to reduced productivity, low turnover levels, reduced employment activities and generally reduced business activity and economic recession. This could have been the cause of the lowest fixed assets turnover in the year 2020 as is indicated in table figure 4.7. Besides the time series trends over the five year study period, the analysis also involved the evaluation of the cross sectional trends of the mean fixed assets turnover for the 44 companies involved in the study in order to check out the individualized management of non-current assets in the Building and Construction industry in Kenya involved with manufacturing. The cross sectional behaviour is as indicated in figure 4.8. The cross-sectional behaviour of the industry indicates that while a majority of the companies have a mean cross sectional value of FAT of around 0.35 times the value of sales, a few have an average below three while yet a few have an average of above 0.40 times with the highest being approximately 0.65 times of sales.

The findings are in line with the mean panel values that indicated that the industry is characterized by a low level of fixed assets turnover. As indicated, this is an attributed mostly associated with manufacturing companies given that they require heavy

investment in plant, machinery, property and equipment to aid in the process of production of output, in this case building and construction materials. This attribute of high asset tangibility was persuasively argued by Kumar and Ranjani (2018) and as the evidence from the manufacturing companies in the Building and construction sector in Kenya are indicating through the FAT, this behaviour is also exhibited by companies in Kenya.
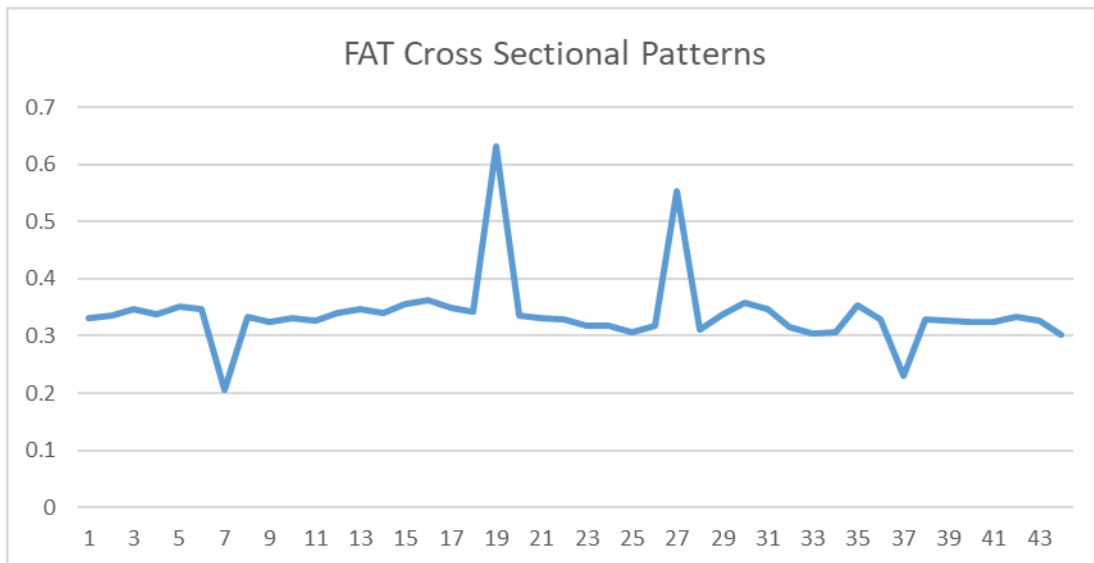
Figure 4.8: Fixed Assets Turnover Industry Cross-Section Mean Patterns

In line with the trends in figure 4.7 and the patterns in figure 4.8 as well as the descriptive statistical figures in table 4.4, it is clear that the management of non-current assets among the manufacturing companies in the building and construction industry in Kenya are characterized by very high asset tangibility and there low turnover levels.

4.2.5 Long Term Liabilities Turnover Descriptive Statistics

Just as was the case of the non-current assets, to avoid the problem of multicollinearity, the long term liability management was represented by long term liability (identified as term liability turnover – TLT, being the ratio of sales to non-current liabilities) as opposed to long term liability structure simply because long term liability structure is the

opposite of current liability structure. as per Oluoch (2014). This ultimately implies that and the sum of the two are mutually exclusive and collectively exhaustive. The descriptive findings of term liability turnover are reflected in table 4.5. The findings reveal the time series and cross sectional attributes of the management of long term liabilities as reflected by TLT.

Table 4.5: Long Term Liabilities Turnover Descriptive Statistics

Mean	1.462806
Standard Error	0.022407
Median	1.486143
Standard Deviation	0.332353
Coefficient of Variation	0.227202
Range	1.484525
Minimum	0.861483
Maximum	2.346008
Count	220

The findings in table 4.5 reveal that the mean of term liabilities turnover the panel of 220 observations on 44 companies over the 5 year period of 2016 to 2020 was 1.4628 times. The standard deviation was established at 0.3323 times. This translates to a coefficient of variation of 0.2272. Comparing the management of fixed assets (which had a mean of 0.3298 times; a high of 0.5307 times; a low of 0.3509 times and a CV of 0.2407 all of which are indicated in table 4.4), the descriptive findings in table 4.5 show that the turnover levels of long term debt is far higher than that of the fixed assets. This points to the fact that the levels of non-current assets are generally lower compared to the value of the long term liabilities in among the manufacturing companies in the Building and Construction industry in Kenya.

The fact that long term liabilities are lower than the non-current assets on average then the implication is that a great deal of proportion of non-current assets is financed by current liabilities. Given the three approaches to financing assets are indicated by Ukhriyawati, Ratnawati and Riyadi (2017) of the conservative approach, hedging approach and the aggressive approach, then it is clear that companies in the industry rely

on the aggressive approach to financing where part of the long term liabilities are financed by current liabilities. In line with Ukhriyawati, Ratnawati and Riyadi (2017), it is clear that the risk profile of the study companies in this research is that they are risk takers that are willing to exploit the less costly albeit more risky short term debt as opposed to the more costly yet less risky non-current liabilities.

The rationale behind the risk-taking attitude of the manufacturing companies in the building and construction industry as explained by the relatively high long term liabilities turnovers as indicated by the attributes in table 4.5 could be innate attributes of the companies easily explained by the risk-return trade off theory of Gitman (1974) although the Jensen and Meckling (1976) agency theory may have the opposite implications. Given this contradiction, it may be that the aggressive nature of management of liabilities in the industry could be an attribute of the capital markets in Kenya. The market frictions are such that the cost of debt is very high in Kenya as indicated by Alper, Clements, Hobdari and Porcel (2019) who show that there have been quite some regulatory efforts including interest rate capping that have been implemented to reduce the cost of debt in the country. Accordingly, the risk-seeking behaviour by the study companies in this research could be as a result of the high cost of borrowing and other capital market restrictions that lead to current liabilities being more attractive to financing assets despite the attendant risk.

To carry out further descriptive evaluation, the industry time series trends with respect to management of long term liabilities as indicated by TLT are reflected in figure 4.9.
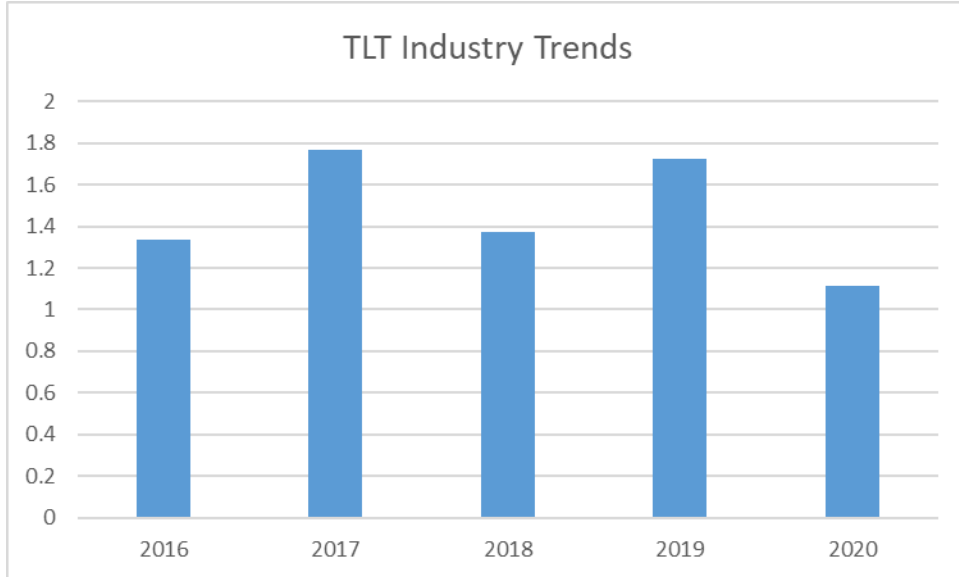
Figure 4.9: Long Term Liabilities Turnover Industry Mean Trend

The figure 4.9 indicates that the industry trends of the mean TLT as not as wide as that of FAT yet just like FAT, the least TLT is observed in 2020, potentially because of the affects of the reduced productivity and revenue attributed to the COVID-19 pandemic and the related lockdowns as articulated by Nechor et al. (2020).

Still on the term liability turnover, the cross sectional attributes for the industry for each of the 44 companies that formed the study sample were evaluated. The findings are depicted in figure 4.10.
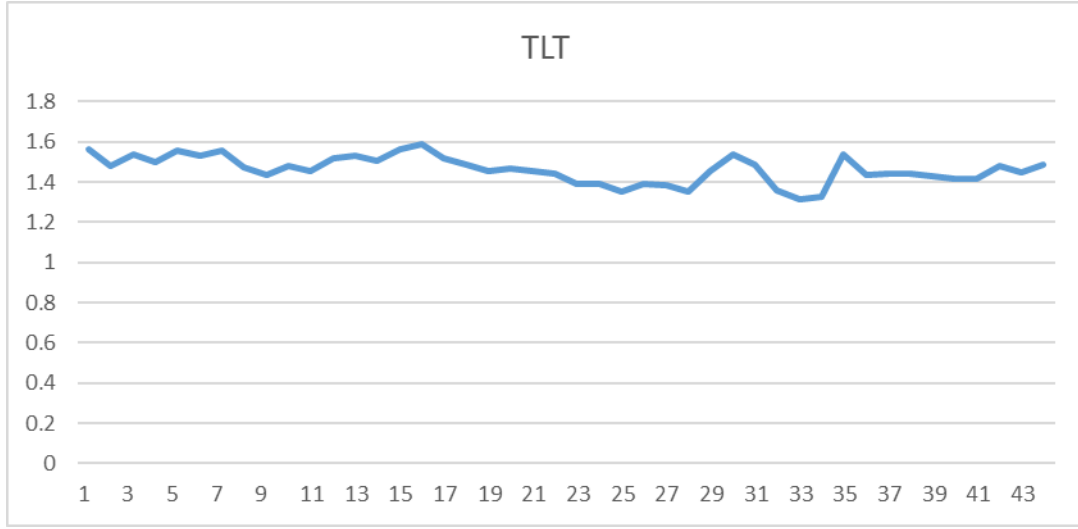
Figure 4.10: Long Term Liabilities Turnover Industry Cross-Section Mean Patterns

Consistent with the panel descriptive statistical findings in table 4.5, where there was very little volatility as exhibited by a coefficient of variation of 0.2272, the figure 4.10 shows a cross sectional mean TLT that is very stable across all the 44 companies that form the sample of the study. All the companies register a mean TLT that fall between 1.3 and 1.6 times. This emphasizes on the risk seeking attitude of the industry in line with the propensity to rely more on current liabilities than long term debt in financing business assets.

4.2.5 Financial Reporting Lag Descriptive Statistics

The final variable for which descriptive statistics were sought was the quality of financial reporting as indicated by the financial reporting lag, the period between the end of the financial period and the day the annual financial statements are released by the entities. This attribute was established at two levels in this study. At the first level was the financial reporting lag as indicated by the number of days it took the companies to release their annual financial statements following the end of the financial period. The descriptive findings are indicated in table 4.6. At the second level, these raw number of

days were converted into a financial reporting lag ratio (RLR) being the raw number of lagging days to the total number of days in the financial period (365). This was done for consistency in use of the model since all the other variables of the study are also indicated in terms of ratios. The descriptive statistics for the RLR are indicated in table 4.7

Table 4.6: Financial Reporting Lag Descriptive Statistics

Mean	61.23182
Standard Error	1.116047
Median	58
Standard Deviation	16.55366
Coefficient of Variation	0.270344
Range	72
Minimum	35
Maximum	107
Count	220

With respect to the raw number of days that the financial reports lagged behind the end of the financial period, the findings in table 4.6 show that the mean number of days were 61.23 days which translates to 62 days to the nearest whole day. This is an average of two months following the end of the financial periods. The minimum were however 35 days (approximately one month and 5 days) and the maximum were 107 days (approximately three and a half days). The median was 58 days which is approximately two months. Given that the Capital Markets Authority – CMA (2021) recommends three months as the maximum period for financial reporting following the end of the financial period for the listed companies, the companies in the building and construction sector compare very well with the acceptable financial reporting lag in Kenya.

The findings can be compared with those of Agyei-Mensah (2018) who found that in Ghana among the publicly listed companies, the financial reporting lag has a mean of 86 days, a standard deviation of 21 days, a minimum of 35 days and a maximum of 173 days. This clearly puts the manufacturing companies in the building and construction sector in Kenya in a better performance in terms of timeliness of financial reporting than

the firms in Ghana. This high quality of financial reporting could be explained by the fact that the sample was drawn from the largest manufacturing companies in the building and construction sector in Kenya. This is because Fujianti and Satria (2020) reported that size of a company is a factor that is instrumental in shorting the financial reporting lag of a company.

The findings in table 4.6 are augmented by the scaled financial reporting lag as indicated by the financial reporting lag ratio (RLR). The findings are reported in table 4.7. The findings reveal that the mean is a value of 16.78% of the financial year while the median is 15.89% of the financial period. Since coefficient of variation is a ratio, the values in table 4.6 and 4.7 are all the same at 0.2703. This indicates that for every one day delay in the release of financial report following the end of the financial report, there is bound to be a variability of 0.27 days on either side of the average which is a relatively high level of volatility when compared to the other variables of this study. This is confirmed by a range of 72 days as indicated in table 4.6. Despite this volatility, it is still closer to zero than one, hence is an acceptable level of variation indicating a high quality of financial reporting in line with the arguments of Fujianti and Satria (2020).

Table 4.7: Reporting Lag Ratio Descriptive Statistics

Mean	0.167758
Standard Error	0.003058
Median	0.158904
Standard Deviation	0.045352
Coefficient of Variation	0.270344
Range	0.197260
Minimum	0.095890
Maximum	0.293151
Count	220

The time series properties of the mean number of days of the financial reporting lag over the five year period of 2016 to 2020 are reflected in figure 4.11. The figure points out to a declining lag that gets at its lowest in 2019 then increases again in 2020. This points towards an increasing quality of financial reporting through increased timeliness of the

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financial reports but the trend suddenly changes in 2020 when the lag increases to its average highest for the industry pointing towards reduced timeliness of the reports. This could be attributed to the effect of the COVID-19 that had had to lockdowns in Kenya as reported by Nechor et al. (2020).
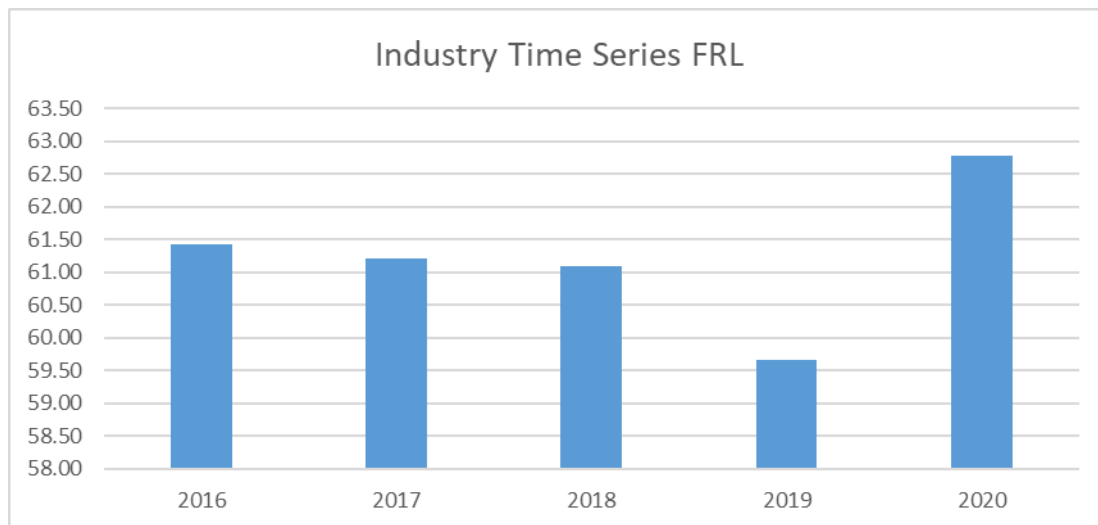
Figure 4.11: Industry Time Series Financial Reporting Lag

The reduced timeliness and increased FRL in 2020 could be attributable to the lockdown as reported by Nechor et al. (2020) which by necessity forced companies to have employees working from home. This could have reduced supervisory efficiency and the co-ordination of the financial reporting efforts and thereby the increase in the financial reporting lag.

In addition to the time series properties of the financial reporting lag, the cross sectional patterns of the reporting lag was also evaluated. The findings are summarized in figure 4.12.
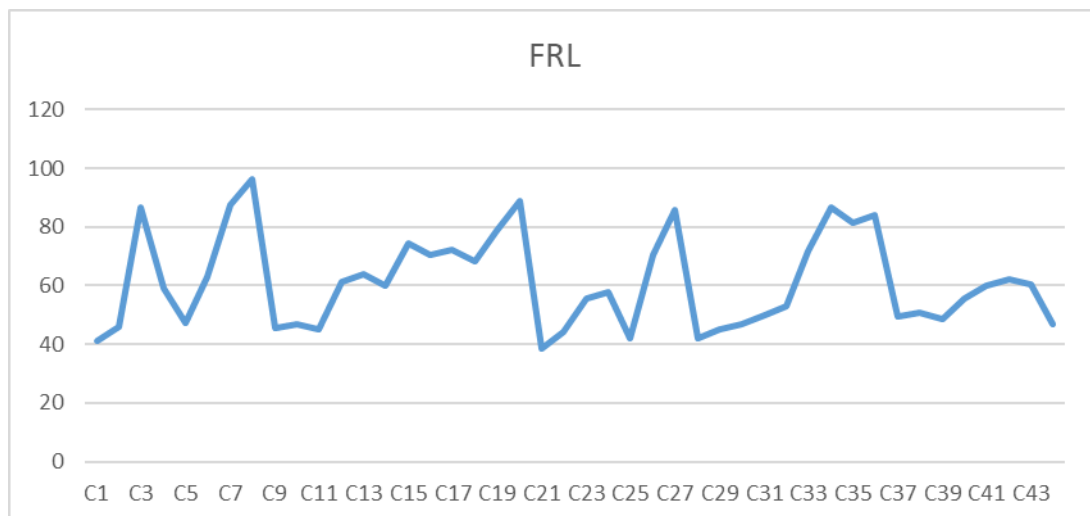
Figure 4.12: Company Cross Sectional Financial Reporting Lag

The cross sectional patterns indicate a very volatile range of mean financial reporting lags with the lowest mean being scored at 38.6 (39 days) while the highest mean being reported at 96.4 (97 days). The varying reporting lags is not surprising given that whereas the firms belong to the large size category of companies, they are not of equal size and Fujianti and Satria (2020) provides evidence from among manufacturing companies in Indonesia that the sizes of firms affect affect the quality of reporting by influencing the length of the financial reporting lag and therefore the timeliness of financial reports.

4.3 Analysis of Variances

Outside of the measures of dispersion and those of central tendency, the analysis of variances for all the variables of the study was undertaken. This was to check if there was any significant differences in the variances of the variables when split into two portfolio sizes. This involved for each variable, sorting the values from the smallest to the highest and then splitting them to two halves to form the small portfolio size and then the large portfolio size. It was then checked if the variances of the two samples were significantly different using the F-test. The idea was to check the variability of the earnings asset management, liability management, quality of financial reporting and

financial performance for the 44 companies over the five year reporting period of 2016 to 2020. The findings are presented in this sub-section. From a statistical interpretation point of view, it is expected that if the two samples have the same variance, the ratio of the variances should be one. The null hypothesis is always that the variances are not different from each other, such that rejecting this hypotheses implies heterogeneity in terms of the sample variances (Peck, Olsen & Devore, 2015).

4.3.1 Return on Equity ANOVA Test

Return on equity (ROE) was used as the dependent variable. Ranking from the lowest to the highest ROE and splitting to two samples, the small return on equity portfolio (SROEP) and the large return on equity portfolio (LROEP), the F-test results for the two sample for variances and means is presented in table 4.8. The Computed F from the analysis in table 4.8 is 3.6803 which is greater than the critical F value of 0.7287. The null hypothesis is rejected as is also confirmed by the p-value that is 0.0000 which is less than 0.05 at the 95% confidence interval. Accordingly, performance among the manufacturing companies in the building and construction sector is varied and heterogeneous not only for the mean but also for the variances.

Table 4.8: ROE F-Test Two Sample for Variances

	SROEP	LROEP
Mean	0.102763	0.136597
Variance	0.000607	0.000165
Observations	110	110
Df	109	109
F	3.680285	
P(F<=f) one-tail	2.56E-11	
F Critical one-tail	0.728713	

This is in line with similar findings that indicate that there are variations in firm fundamentals that affect financial performance. Wamiori (2019) for instance showed that performance is determined by accessibility to finance, cost of capital and investment practices. Since these are expected to be idiosyncratic among the study companies, they

could be used to explain the differences and variations in their financial performance as measured by return on equity. With this conclusion, the ROE across the panels is not a constant and can therefore be subjected to further bivariate and multivariate inferential analysis against the independent and the moderating variables.

4.3.2 Current Asset Structure ANOVA Test

Current asset structure (CAS) was an indicator of the management of current assets. It was measured using the ratio of current assets to total assets. Accordingly, CAS is one of the four independent variables used in this study. Ranking from the lowest to the highest CAS and splitting to two samples, the small current asset structure portfolio (SCASP) and the large current asset structure portfolio (LCASP), the F-test results for the two sample for means and variances is presented in table 4.9.

Table 4.9: CAS F-Test Two Sample for Variances

	SCASP	LCASP
Mean	0.335718	0.383046
Variance	0.00024	0.000636
Observations	110	110
Df	109	109
F	0.377342	
P(F<=f) one-tail	3.17E-07	
F Critical one-tail	0.728713	

With respect to variations in current asset to total asset ratio for the 220 panel data split to halves of 110 companies each with 109 degrees of freedom, the Computed F from the analysis in table 4.9 is 0.3773 which is greater than the critical F value of 0.7287 The null hypothesis is rejected as is also confirmed by the p-value that is 0.0000 which is less than 0.05 at the 95% confidence interval. Accordingly, there are significant variations in the means and variances of the current asset structure among the manufacturing companies in the building and construction sector in Kenya. This is in line with the descriptive findings not only for the current asset management but also for the non-current asset management as analyzed in section 4.2. The heterogeneity in the CAS of

the companies in the industry is consistent with the findings of Yahaya et al. (2015) that investment in current assets varies widely among various companies even if they are operating in the same sector or subsector. Seru and Sufi (2021) indicates that the variations in the asset structure are a function of the risk profile of the business, the size of the firm, the industry segment the firm operates in and the working capital policy of the business. All these are likely to affect the study companies differently, hence the observed heterogeneity of the CAS across the panel.

4.3.3 Current Liability Structure ANOVA Test

The second aspect of asset and liability management pursued in this study was the management of current liabilities. This was indicated by the current liability structure (CLS) which was measured as the ratio of current liabilities on the balance sheet of a firm to the total value of liabilities on that statement of financial position. Ranking from the lowest to the highest CLS and splitting to two samples, the small current liability structure portfolio (SCLSP) and the large current liability structure portfolio (LCLSP), the F-test results for the two sample for means and variances is presented in table 4.10.

Table 4.10: CLS F-Test Two Sample for Variances

	SCLSP	LCLSP
Mean	0.091211	0.122655
Variance	7.58E-05	0.000158
Observations	110	110
Df	109	109
F	0.982732	
P(F<=f) one-tail	7.26E-05	
F Critical one-tail	0.728713	

F-test was used in the analysis. With respect to variations in current liability to total liabilities ratio for the 220 panel data split to halves of 110 companies each with 109 degrees of freedom, the Computed F from the analysis in table 4.10 is 0.9827 which is greater than the critical F value of 0.7287. The null hypothesis is therefore rejected, a fact that is also confirmed by the p-value that is 0.0000 which is less than 0.05 at the 95% confidence interval. Accordingly, there are significant variations in the means and variances of the current liability structure among the manufacturing companies in the building and construction sector in Kenya. Just the same way the companies had variations in current asset management, this finding about current liability management also shows that manufacturing firms in the building and construction sector in Kenya have variations in their policies with respect to how much current liabilities they hold and other related attributes like the credit periods and discount periods. This largely is in agreement with the trade-off theory of Gitman (1974) as well as the findings of Ukhriyawati, Ratnawati and Riyadi (2017) who agree with Seru and Sufi (2021) and assert that a company's attitude towards risk and its risk profile is reflected in the liability management policies it adopts just the same way it is also manifested in the working capital policy that is adopted. Seru and Sufi (2021) assert that the differences in the current liability and indeed working capital management policy adopted by a firm is a function of numerous factors including the market of operation, regulatory conditions, the size of the business, the risk attitude of the managers and the risk profile of the firm as well as the age and financial performance of the business.

4.3.4 Fixed Assets Turnover ANOVA Test

On the long term side of managing assets and liabilities of manufacturing companies in the building and construction sector in Kenya was evaluated two dynamics, the management of noncurrent assets (fixed assets) and the management of long term liabilities. In this subsection, the analysis is focused on the management of fixed assets which are often plant, property and equipment (PPE). The management of PPE was indicated by the fixed assets turnover (FAT) which is the ratio of periodic sales to the value of fixed assets (PPE). Turnover was preferred to asset tangibility to avoid multicollinearity since the value of total assets had equally been used in CAS, the first independent variable of the study.

In the analysis, there was the ranking from the lowest to the highest FAT to the highest FAT of the 220 panel observations. By splitting the resultant hierarchy of FAT values to two samples, the small fixed assets turnover portfolio (SFATP) and the large fixed assets turnover portfolio (LFATP), the F-test results for the two sample for means and variances is presented in table 4.11.

Table 4.11: FAT F-Test Two Sample for Variances

	SFATP	LFATP
Mean	0.279269	0.386745
Variance	0.00088	0.001685
Observations	110	110
Df	109	109
F	0.922061	
P(F<=f) one-tail	0.000395	
F Critical one-tail	0.728713	

Just like it applied to the cases of CAS and CLS, F-test was used in the analysis with respect to the mean-variance attributes of the fixed assets turnover, the measure of non-current asset management. With respect to variations in fixed assets turnover ratio for the 220 panel data split to halves of 110 companies each with 109 degrees of freedom, the Computed F from the analysis in table 4.11 is 0.9221 which is greater than the

critical F value of 0.7287. The null hypothesis is therefore rejected, a fact that is also confirmed by the p-value that is 0.0004 which is less than 0.05 at the 95% confidence interval. Accordingly, there are significant variations in the means and variances of the fixed assets turnover among the manufacturing companies in the building and construction sector in Kenya.

McLaney (2017) argues that the variations in the depreciation policies across companies and over time is likely to influence the reported book values of plant, property and equipment. Vernimmen, Quiry and Le Fur (2022) state that there are a variety of factors that inform the levels of investment in plant, property and equipment by business entities. These include business profitability, the stage in the life cycle of a business, the market value of the business, the industry of operation, the age of the firm, the business growth prospects, the managerial competence and the risk appetite of the business. Some of these factors, equally supported by Seru and Sufi (2021) are likely to have impacted the differences observed in revealing the heterogeneous nature of FAT in among the manufacturing companies in the building and construction sector in Kenya.

4.3.5 Long Term Liabilities Turnover ANOVA Test

The other aspect of the long term management of assets and liabilities focused on the management of long term liabilities. This management was indicated by the term liabilities turnover (TLT) measured as the ratio of sales to the long term liabilities of the firm. Just like for all the preceding variables, a two-size portfolio was formed by initially ranking the TLT by magnitude from the smallest to the highest. This was then split into two halves from the 220 firm year observations over the study period of 2016 to 2020. This ended up yielding two portfolios identified as the small term liability turnover portfolio (STLTP) and the large term liability turnover portfolio (LTLTP). It is these two portfolios that were subjected to analysis of variances and the findings are as reflected in table 4.12.

From the findings, the critical value of F is 0.7287 which is lower than the computed F-ratio of 1.0242. This leads to the rejection of the null hypotheses that the mean and variance TLT for small and large portfolios are not respectively different from each other with the conclusion that the management of long term liabilities among the manufacturing companies in the building and construction sector in Kenya is not homogenous but varied from company to company and from period to period. This is confirmed by the P-value of 0.0000 which is less than 0.05 at the 95% confidence interval for which the analysis is done.

Table 4.12: TLT F-Test Two Sample for Variances

	STLTP	LTLTP
Mean	0.067648	0.397957
Variance	0.001426	0.058963
Observations	110	110
Df	109	109
F	1.024177	
P(F<=f) one-tail	0.000000	
F Critical one-tail	0.728713	

The findings in table 4.12 about the TLT ANOVA are consistent with those found for not only return on equity, but also the current asset structure, current liability structure and fixed assets turnover. This is in agreement with Khemiri and Noubbigh (2018) who while carrying out a study among 5 countries in sub-Saharan Africa (Nigeria, South Africa, Kenya, Ghana and Zimbabwe) showed that trade-off theory supports the capital structure decisions of companies in these countries. It also seems to agree with the assertion of Vernimmen, Quiry and Le Fur (2022) management of long term liabilities as represented by debt element in corporate capital structures is wide and varied as influenced by a multitude of conditions and factors. These include business investment policy, cost of capital, capital market conditions, the stage in the life cycle of a business, the industry idiosyncrasies, the age of the firm, the managerial competence as exemplified by the agency theory of Jensen and Meckling (1976).

4.3.6 Financial Reporting Lag Ratio ANOVA Test

The moderator variable in this study was taken as the quality of financial reporting. There are various measures of the quality of financial reporting relating to the relevance, reliability, understandability and comparability of financial information and this study focused on timeliness as a quality of relevance of financial information. Relevance in this instance was indicated by the financial reporting lag, the number of days that lapse between the end of the financial period and the date the financial report is released. This was looked at in the raw number of days (financial reporting lag in days) and the proportion of the lagged days in the financial period (Financial reporting lag ratio – RLR).

In the lag ratio format, the RLR, the measure was ranked from lowest to highest and was then split into two halves from the 220 firm year observations over the study period of 2016 to 2020. This ended up yielding two portfolios identified as the small reporting lag ratio portfolio (SRLRP) and the large reporting lag ratio portfolio (LRLRP)). It is these two portfolios that were subjected to analysis of variances and the findings are as reflected in table 4.13.

Table 4.13: RLR F-Test Two Sample for Variances

	SRLRP	LRLRP
Mean	0.130635	0.204882
Variance	0.000235	0.001116
Observations	110	110
df	109	109
F	1.210222	
P(F<=f) one-tail	4.22E-15	
F Critical one-tail	0.728713	

From the results in table 4.13, it is observed that there is quite some distinct variations in means and variances of RLR both cross sectionally and from a trend perspective for the entire 220 panel data observations over the study period. This implies that the null hypothesis of homogeneity in these attributes is rejected an that owing to the critical F

ratio of 0.7287 being lower than the sample F-ratio of 1.2102 is rejected. The firms in the building and construction industry indeed have versatile attributes with respect to the quality of their financial reporting.

The variations in the quality of financial reporting could be explained by a variety of factors as explained by Fujianti and Satria (2020). These include the size of the firm, the type of external auditors, the strength of the internal control system, the competence of the internal audit and accounting staff as well as the level of board support in financial reporting.

The findings from table 4.13 can be corroborated by those in table 4.14 in which the raw form of the financial reporting lag in days is tested in the same procedure the ratio form was done in table 4.13. In both cases the p-value at 95%v confidence interval is 0.000 which is less than 0.05 which leads to the rejection of the homogeneity of FRL across the industry and over time.

Table 4.14: FRL F-Test Two Sample for Variances

	SFRLP	LFRLP
Mean	49.11818	69.67273
Variance	50.21526	587.2314
Observations	110	110
df	109	109
F	1.085512	
P(F<=f) one-tail	0.00000	
F Critical one-tail	0.728713	

Having dealt with all the variables in terms of evaluating their robustness for analysis both at the bivariate level and at the multivariate level in the panel regression used in this study, the following section deals with inferential analysis of the findings.

4.4 Bivariate Analytical Inferential Findings

In the bivariate analysis of the inferential statistics, a panel data regression was undertaken for return on equity for each of the independent variables used in the study. For each of the bivariate panel regression model, model diagnostics were undertaken to identify the most suited model for analysis and to check the compliance of the data to the model assumptions of normality, homoscedasticity, serial correlation and model stability. After ascertaining model suitability, panel regression analysis as well as correlation analysis was carried out for each of the independent variables and conclusions arrived at. The analytical findings are presented and simultaneously discussed and interrogatehd using conceptual, theoretical and empirical literature in the subsequent subsections.

4.4.1 Bivariate Effect of Current Asset Management on Financial Performance

Current asset management by manufacturing companies in the building and construction industry was represented by current asset structure (CAS). Current asset structure is the inverse of asset tangibility and it is the proportion of current assets on a company's balance sheet to the total assets of that company at a given date (Seru & Sufi, 2021). Financial performance was represented by a profitability measure called return on equity which is the ratio of earnings after tax to the shareholders equity of the firm. Return on assets was avoided to avoid the problem of multicollinearity. The analysis of this relationship started with the diagnostic testing of the panel model suitability with respect as to whether to use a fixed effects, random effects or pooled model of analysis. The model was presented as:

$$ROE_{i,t} = \beta_0 + \beta_1 CAS_{i,t} + e_{i,t}$$

The model diagnostic tests that were carried out before the panel regression are indicated in table 4.15

Table 4.15: ROE on CAS Regression Model Diagnostics

Mean dependent var	0.119680	S.D. dependent var	0.025915
Sum squared resid	0.080229	S.E. of regression	0.021411
R-squared	0.454504	Correlation Coeff	-0.649485
Hausman Chi-Square (1)	15.012700	Hausman Chi-square p-value	0.000107
F(44, 175)	3.313836	P-value(F)	0.000000
Shapiro-Wilk	0.943152	Shapiro Wilk P-value	0.084311
Breuch-Pagan LM	5.121234	LM P-value	0.247913
Observations	220	Durbin-Watson	2.014272

With respect to model specification, the null hypothesis was that random effects model is the most suited for analysis as opposed to the fixed effects model. The output from table 4.15 provides a chi-square value of 15.0127 which a corresponding p-value of 0.000107 which is less than the critical value of 0.05. Accordingly, the null hypothesis was rejected and therefore the fixed effects model was found to be the one suitable for this bivariate regression analysis.

With respect to model assumptions, at the first level Shapiro-Wilk Statistic was used for checking normality and with value of 0.943152 and a P-value of 0.084311 being higher than the critical value of 0.05, the data and error term are normally distributed. With respect to heteroscedasticity, Breuch-Pagan LM was used and its p-value of 0.247913 indicates that the model upholds the homoscedastic expectations. With respect to serial correlation, the Durbin-Watson d-value of 2.014 is approximately 2 thereby indicating a data absence of statistically significant autocorrelation as is articulated by Gujarati (2011). The stability of the model in carrying out the analysis is checked using the model F-test. This provides an F-value of 3.313854 which is greater than the significant F-value of 0.000. This indicates that the model is suitable for analysis as suggested by Gujarati (2011).

The model provides an R-squared value of 0.454504 an indicator that 45.4% of the changes in ROE are explained by the variations in CAS while the remainder of the variations are attributable to other factors outside of this independent variable. This is

expected because studies like that of Wamiori (2019) have identified numerous factors that affect financial performance of manufacturing companies in Kenya. Wamiori (2019) for instance identified these factors as access to finance; cost of capital; level of competition; fiscal tax incentives and investment practices of the manufacturing firms. In Pakistan, Mirza and Javed (2013) identify other factors as corporate governance; risk management; ownership structure and capital structure. Given all these multitude of factors, the reported coefficient of determination in this study is acceptable.

The null hypothesis presented in the study is that current asset structure has no significant effect on financial performance of companies in the building and construction sector in Kenya. The findings presented in the table 4.16. The results show a CAS coefficient of -0.490094. The corresponding t-statistic for a two tailed test at 95% confidence interval and 219 degrees of freedom is 10.2818. This is greater than a two tailed critical value of 1.9709. This leads to the rejection of the hypothesis and the conclusion that current asset structure has a negative effect on financial performance and that the higher the ratio of current assets to total assets the poorer the financial performance and vice versa. This position is supported by the p-value which is less than 0.00001 at 0.05 level of significance. In line with Gujarati (2011) whenever the output t-value is greater than the level of significance, reject the null hypothesis and assume the output effect.

Table 4.16: Bivariate Regression Output of ROE on CAS

Fixed-effects Included 44 cross-sectional units Time-series length = 5 (220 Observations) Dependent variable: ROE

	Coefficient	Std. Error	t-ratio	p-value	
Const	0.295811	0.0171911	17.2072	<0.00001	***
CAS	-0.490094	0.0476663	-10.2818	<0.00001	***
Correlation coefficients, using the observations 1:1 - 44:5					
5% critical value (two-tailed) for n = 220					
ROE	CAS				
1.0000	-0.6495	ROE			
	1.0000	CAS			

The takeaway from the bivariate panel evaluation is that there is an inverse relationship between CAS and financial performance. This is evident also from the coefficient of correlation that is indicated in table 2 between CAS and ROE (the indicator of financial performance). This is perfectly in line with the trade-off theory of asset management of Gitman (1974) high liquidity corresponds with low profitability and vice versa. The implication as per Markowitz (1952) is that there is need for risk return balance. Seru and Sufi (2021) indicate that whereas current assets are necessary for operations, they concurrently are accompanied by low returns since they are largely non-return generating. This implies that one needs to have an optimum level of current assets to ensure smooth operations while simultaneously not incurring high opportunity costs of locked in resources that could be applied to high-return generating assets. As per the position noted by Ukhriyawati, Ratnawati and Riyadi (2017) that the three asset management approaches of aggressive, hedging and conservative have varying risk-return implications.

The findings from this study can be compared with empirical findings from other similar studies. Al-Ani (2013) for instance evaluated the effect of asset structure on financial performance of companies in Oman and found out that current asset structure has no significant effect on profitability. This contradicts the findings in this study yet it could be because the metrics used by Al-Ani (2013) to measure asset structure was total asset

turnover. The result is that turnover has an element of revenue which is also reflected in return on equity. This could have influenced the findings. More so, Oman is structurally different from the industry structure of companies in the Kenyan building and construction sector. Also contradicting the findings albeit in the opposite direction are the findings of Koech, Muturi and Oluoch (2021) who while focusing only on inventory structure among the non-financial public firms listed at the Nairobi Securities Exchange (NSE) found a positive relationship between current assets structure (inventory) and financial performance. This finding could be explained by the sole focus on inventory to the exclusion of other current assets.

The findings from this study however closely mirror those of Yahaya et al. (2015) who found that current assets negatively affected the performance of Nigeria commercial banks. This similarity could stem from the closeness in operations structure among Nigerian and Kenyan companies since all of them are identified as commonwealth countries. It is however noteworthy that the Yahaya et al. (2015) study was based on banks while this study is based on manufacturing companies in the building and construction sector in Kenya. This is in contradiction of Al-Slehat, Zaher, Fattah and Box (2020) who found a positive association between firm value and asset structure. The difference however is that firm value is an indicator of market performance as opposed to ROE that indicates financial performance.

4.4.2 Bivariate Effect of Current Liability Management on Financial Performance

Current liability management by manufacturing companies in the building and construction industry was represented by current liability structure (CLS). According to Seru and Sufi (2021). Current liability structure is the inverse of long term liability structure and it is the proportion of current liabilities on a company's balance sheet to the total liabilities of that company at a given date. Just like for the case of current asset management, the analysis of this relationship started with the diagnostic testing of the panel model suitability with respect as to whether to use a fixed effects, random effects or pooled model of analysis. The model was presented as:

$$ROE_{i,t} = \beta_0 + \beta_1 CLS_{i,t} + e_{i,t}$$

The model diagnostic tests that were carried out before the panel regression are indicated in table 4.17

In line with the recommendations of Gujarati (2011), it is imperative to choose between the fixed effects and the random effects model in which case the Hausman specification test is useful. The null hypothesis was that random effects model is the most suited for analysis as opposed to the fixed effects model. The output from table 4.17 provides a chi-square value of 0.96965 which a corresponding p-value of 0.00145 which is less than the critical value of 0.05. Accordingly, the null hypothesis was rejected and therefore the fixed effects model was found to be the one suitable for this bivariate regression analysis. Further diagnostic tests are indicated in table 4.17.

Table 4.17: ROE on CLS Regression Model Diagnostics

Mean dependent var	0.119680	S.D. dependent var	0.025915
Sum squared resid	0.060371	S.E. of regression	0.018574
R-squared	0.589524	Correlation Coeff	0.698421
Hausman Chi-Square (1)	0.969645	Hausman Chi-square p-value	0.0014481
F(44, 175)	2.452701	P-value(F)	0.000020
Shapiro-Wilk	0.912711	Shapiro-Wilk P-value	0.13121
Breuch-Pagan LM	2.271721	LM P-value	0.68262
Observations	220	Durbin-Watson	1.70771

At the first level Shapiro-Wilk Statistic was used for checking normality and with value of 0.912711 and a p-value of 0.13121 being higher than the critical value of 0.05, the data is normally distributed. With respect to heteroscedasticity, Breuch-Pagan LM was used and its p-value of 0.68262 is also higher than 0.05 which indicate that the model upholds the homoscedastic expectations. With respect to serial correlation, the Durbin-Watson d-value of 1.70771 is approximately 2 thereby indicating a data absence of statistically significant autocorrelation as is articulated by Gujarati (2011). The stability of the model in carrying out the analysis is checked using the model F-test. This provides an F-value of 2.452701 which is greater than the significant F-value of 0.000. This indicates that the model is suitable for analysis as suggested by Gujarati (2011).

The model provides an R-squared value of 0.589524 an indicator that 58.95% of the changes in ROE are explained by the variations in CLS while the remainder of the variations are attributable to other factors outside of this independent variable. This is expected because business organizations have numerous internal and external factors that influence their performance. Several scholars like Wamiori (2019); Mater and Eneizan (2018) and even Mirza and Javed (2013) have tried to identify these factors and narrowed them to micro and macro-environmental factors such as financial factors, management attributes, economic factors, regulatory factors, operational factors, ownership structures, governance issues, market competitive factors among others. The error term from the findings of this study is therefore attributable to these variety of factors among others.

The null hypothesis presented in the study is that current liability structure has no significant effect on financial performance of companies in the building and construction sector in Kenya. The findings presented in the table 4.18. The results show a CLS coefficient of 0.955705. The corresponding t-statistic for a two tailed test at 95% confidence interval and 219 degrees of freedom is 14.073. This is greater than a two tailed critical value of 1.9709. This leads to the rejection of the hypothesis and the conclusion that current liability structure has a positive effect on financial performance and that the higher the ratio of current liabilities to total liabilities the better the financial performance and vice versa. This position is supported by the p-value which is less than 0.00001 at 0.05 level of significance. In line with Gujarati (2011) whenever the output t-value is greater than the level of significance, reject the null hypothesis and assume the output effect.

Table 4.18: Bivariate Regression Output of ROE on CLS

Fixed-effects Included 44 cross-sectional units Time-series length = 5 (220 Observations) Dependent variable: ROE

	Coefficient	**Std. Error**	**t-ratio**	**p-value**	
const	0.0174836	0.00736901	2.3726	0.01875	**
CLS	0.955705	0.06791000	14.0731	<0.00001	***

Correlation coefficients, using the observations 1:1 - 44:5

5% critical value (two-tailed) for n = 220

E	CLS		
)00	0.698421	ROE	
	1.00000	CLS	

The takeaway from the bivariate panel evaluation is that there is a direct causality relationship between CLS and financial performance. This is evident also from the coefficient of correlation that is indicated in table 18 between CLS and ROE (the indicator of financial performance). There is a strong positive correlations shown by the coefficient of 0.69842. This is perfectly in line with the trade-off theory of Gitman

(1974) high levels of current liabilities (which are largely cost free) corresponds with high profitability and vice versa. The risk profile of the business as shown by the risk return tradeoff has a big impact on the financial performance of the business. This clearly contradicts the postulation of Modigliani and Miller (1958) when the assumptions are applied on short term liabilities. The downside to use of excessive current liabilities in the liability structure is that profitability is increased at the expense of enhanced risk given that the current liabilities are subject to payment on short notice (Seru & Sufi, 2021).

The findings from this study can be compared with empirical findings from other similar studies. The results are for instance in agreement with those of Rotich (2015) who while studying microfinance banks in Kenya found out that their financial performance is positively related to financial structure. Rotich (2015) however used debt to equity as an indicator of financial structure as opposed to the ratio of liabilities utilized in this study. Still in Kenya, Kasomba and Omagwa (2020) tried to establish the effect of financial structure on the performance of airlines in Kenya. The findings showed that debt structure positively influenced financial performance of the airline firms in Kenya. Basing their study on listed companies at the Nairobi Securities Exchange, Gathara, Kilika and Maingi (2019) also confirmed that leverage, has a positive effect on the financial performance of the listed companies contrary to the expectations of the Modigliani and Miller (1958) theorization.

Some studies have provided contradictory evidence from the findings in this study. Evidence from Nigeria provided by Echekoba and Ananwude (2016) in their study on how financial structure affects the performance of Nigeria consumer goods firms for instance shows that financial structure has a negative effect on financial performance. This applied for both short term liability structure and long term liability structure as they relate to the equity of these firms. The seeming difference in the findings could be attributed to the differences in the operating environment as well as the focus on a different sector other than the building and construction sector that was the focus of this study.

4.4.3 Bivariate Effect of Non-Current Asset Management on Financial Performance

Non-Current assets are often also called fixed assets and they relate to plant, property and equipment (Oluoch, 2014). Fixed asset management by manufacturing companies in the building and construction industry was represented by fixed assets turnover (FAT) ratio. As pinpointed in section 4.4.1, asset tangibility was avoided as a measure given that it is indirectly represented in current asset structure which together would asset tangibility would form a mutually exclusive and collectively exhaustive data set being a mirror image of each other. To avoid such spurious data representation, the fixed assets turnover was used being the ratio of sales of a given period to the total non-current assets of that period.

Just like for the case of current asset management and current liability management, the analysis of the relationship between non-current assets turnover and ROE commenced with the diagnostic testing of the panel model suitability with respect as to whether to use a fixed effects, random effects or pooled model of analysis. The model was presented as:

$$ROE_{i,t} = \beta_0 + \beta_1 FAT_{i,t} + e_{i,t}$$

Econometricians like Gujarati (2011) recommend that the Hausman model specification test can be used to decide on whether to pick the fixed effects or the random effects model in the panel data regression analysis. The model diagnostic tests that were carried out before the panel regression are indicated in table 4.19.

Table 4.19: ROE on FAT Regression Model Diagnostics

Mean dependent var	0.119680	S.D. dependent var	0.025915
Sum squared resid	0.047241	S.E. of regression	0.016430
R-squared	0.598040	Correlation Coeff	0.753330
Hausman Chi-Square (1)	17.42560	Hausman Chi-square p-	0.000000

		value	
F(44, 175)	8.405220	P-value(F)	3.14e-25
Shapiro-Wilk	1.9078	Shapiro-Wilk P-value	0.220814
Breuch-Pagan LM	1.1023	LM P-value	0.148356
Observations	220	Durbin-Watson	1.927208

The null hypothesis was that random effects model is the most suited for analysis as opposed to the fixed effects model. The output from table 4.19 provides a chi-square value of 17.42560 which a corresponding p-value of 0.000000 which is less than the critical value of 0.05. Accordingly, the null hypothesis was rejected and therefore the fixed effects model was found to be the one suitable for this bivariate regression analysis. Further diagnostic tests in respect of this model are indicated in table 4.19.

First to be checked was normality of the data and the error term. Shapiro-Wilk statistic was used in line with the recommendation of Gujarati (2011). The Shapiro-Wilk output statistic was established as 1.9078 which had a p-value of 0.22081. This value is higher than the critical value of 0.05 and the error term is assumed to be approximately normal. With respect to homoscedasticity, Breuch-Pagan LM (Lagrange Multiplier) was used with the null-hypothesisation that the error term is not homoscedastic. The output reveals an LM p-value of 0.1484 which is higher than the critical p-value of 0.05. This leads to the rejection of the null hypothesis and acceptance of the fact that the data is devoid of any significant heteroscedasticity problem. The Durbin-Watson d-statistic of 1.92721 is approximately equal to 2, an indicator of absence of a serious problem of serial correlation in the data. As for model stability for analysis, the critical F-ratio of 0.000000 is lower than the output F-ratio of 8.4052. This makes the model stable and suitable for analysis.

Having confirmed model suitability, the regression output is presented in table 4.20. The bivariate null hypothesis was that the management of non-current assets as indicated by fixed assets turnover has no significant effect on the financial performance of manufacturing companies in the building and construction sector in Kenya. In essence,

the model is to test the statistical significance of β_1 in the resultant panel data bivariate regression as indicated in table 4.20.

Table 4.20: Bivariate Regression Output of ROE on FAT

	Coefficient	Std. Error	t-ratio	p-value	
const	0.0357338	0.00495799	7.20730	0.00000	***
FAT	0.2545240	0.01465250	17.3706	0.00000	***

Correlation coefficients, using the observations 1:1 - 44:5
5% critical value (two-tailed) for n = 220

ROE	FAT	
1.00000	0.753330	ROE
	1.00000	FAT

The null hypothesis is rejected given that the t-statistic of 17.3706 is greater than the critical t at 95% confidence interval and 219 degrees of freedom. This is confirmed by the p-value of 0.0000 which is lower than the critical value of 0.05, for a two-tailed test. The conclusion from this finding is that the management of fixed assets as indicated by fixed assets turnover has a positive influence on financial performance of construction companies in the building and construction sector in Kenya. This implies that the more effective and actively the assets are used in generating revenue, the better will be the returns to the shareholders of these companies.

The above conclusion is further confirmed by the Pearson's coefficient of correlation between ROE (the indicator of financial performance) and FAT (the indicator of the effectiveness with which plant, property and equipment are managed. The output coefficient of correlation is a positive value of 0.75330. This indicates a strong positive correlation indicating that the higher the FAT, the higher the ROE and vice versa. This is expected because Oluoch (2014) indicates that asset turnover ratio is a measure of the efficiency and effectiveness with which assets are used to generate income. In the context of this study, they show how effective and efficiently fixed assets are used to generate sales for the study companies. The more effective and efficient this is (as reflected by high FAT), the greater the expectation of generating a higher level of sales from the respective plant, property and equipment.

The findings support those of Irungu, Muturi, Nasieku and Ngumi (2018) who had over the 2012-2016 five year study period established that asset tangibility positively affected the financial performance of firms listed at the Nairobi Securities Exchange. This similarity could be because the study companies come from the same country and therefore face the same regulatory and operational environment. The Irungu et al. (2018) study was however multi-sectoral covering all sectors at the NSE while this study is mono-sectoral focusing only on the manufacturing companies in the building and construction sector in Kenya.

The findings are also similar to another study undertaken by Purba and Bimantara (2020) who found that for the Indonesian Sea Transport companies, fixed assets turnover was directly influencing the performance of those firms as indicated by return on assets. Contradictory findings can be found from Al-Ani (2013) who over a period of five years 2008 to 2012 found that the management of fixed assets as indicated by fixed assets turnover had no effect on financial performance of the manufacturing companies. The same result was obtained for current assets as measured by both return on equity and return on assets.

Theoretically, the findings can be supported by the risk-return trade off theory of Gitman (1974). According to this theorization where liquidity (in this case of non-current assets-illiquidity) is inversely related to profitability. It is therefore expected that non-current assets represent income generating assets and that the higher their book values and related activity as indicated by FAT, the better the financial performance and vice versa. The results are also comparable to some of the partial expectations of the asset finance matching theory of Sagan (1955) at the risk taking level of assets and liabilities and when properly aligned, the agency theory of Jensen and Meckling(1976) when the managerial expectations are in opposite alignment with the shareholders.

4.4.4 Bivariate Effect of Long Term Liability Management on Financial Performance

Long term liabilities (LTL) also called term liabilities (TL) relate to the financial obligations of a business expected to be settled over the long term exceeding one financial year. They usually form the complementary long term finance to equity on a firm's balance sheet. Seru and Sufi (2021) identify them as long term debt. The management of long term liabilities by manufacturing companies in the building and construction industry was represented by term liabilities turnover (TLT) ratio. As pinpointed in section 4.4.2, long term liability structure was avoided as a measure of management of long term liabilities given that it is indirectly represented in current liabilities structure (CLS) which together would long term liability structure would form a mutually exclusive and collectively exhaustive data set being a mirror image of each other. To avoid such spurious data representation, the term liabilities turnover was used being the ratio of sales of a given period to the total non-current assets of that period.

Just like for the case of current asset management, current liability management, and fixed assets management, the analysis of the relationship between term liabilities turnover and ROE commenced with the diagnostic testing of the panel model suitability with respect as to whether to use a fixed effects, random effects or pooled model of analysis. The model was presented as:

$$ROE_{i,t} = \beta_0 + \beta_1 TLT_{i,t} + e_{i,t}$$

As a precursor to checking the adherence of the data to the model assumptions, the first test involved checking the Hausman model specification test to verify as to whether the data was best suited for the random effects or the fixed effects panel regression model. The findings are reflected in table 4.21

With respect to specification, the fixed effects was chosen in the analysis. This was based on the output in table 4.21 which indicated that Hausman Chi-Square value of 4.22958 had a corresponding p-value of 0.03973 which was a small value compared to the significant value of 0.05. This automatically in line with Gujarati (2011) led to the rejection of the null hypothesis that the random effects model was the best suited for analysis leading to the acceptance of the fixed effects model. With this acceptance, further diagnostic tests were carried out to check the model fit on the data as well as the assumptions of normality, serial correlation and homoscedasticity. The findings as indicated in table 4.21 are further discussed in the paragraphs below.

Table 4.21: ROE on TLT Regression Model Diagnostics

Mean dependent var	0.119680	S.D. dependent var	0.025915
Sum squared resid	0.123008	S.E. of regression	0.020041
R-squared	0.163637	Correlation Coeff	0.218097
Hausman Chi-Square (1)	4.229580	Hausman Chi-square p-value	0.039725
F(44, 175)	4.344935	P-value(F)	0.023943
Shapiro-Wilk	2.832164	Shapiro-Wilk P-value	0.064321
Breuch-Pagan LM	3.929911	LM P-value	0.409735
Observations	220	Durbin-Watson	1.703426

The normality assumption of the data and error term was the first assumption to be checked. This was tested using the Shapiro-Wilk statistic in line with the recommendation of Gujarati (2011). From the output in table 4.21, the Shapiro-Wilk was established to be 2.83216 which had a p-value of 0.064321. This value is higher than the critical value of 0.05 and the error term is assumed to be approximately normal. In testing the assumption of homoscedasticity, the Breuch-Pagan LM was used with the null-hypothesis that the error term is not homoscedastic. The output reveals a Breuch-Pagan LM value 3.92991 and a corresponding p-value of 0.409735 which is higher than the critical p-value of 0.05. This leads to the rejection of the null hypothesis and acceptance of the fact that the data is devoid of any statistically significant heteroscedasticity problems. The Durbin-Watson d-statistic of 1.703426 is approximately equal to 2, an indicator of absence of a serious problem of serial

correlation in the data. As for model stability for analysis, the critical F-ratio of 0.023943 is lower than the output F-ratio of 4.34494. This makes the model stable and suitable for analysis.

Having confirmed model suitability, the regression output is presented in table 4.22. The bivariate null hypothesis was that the management of long term liabilities as indicated by term liabilities turnover (TLT) ratio turnover has no significant effect on the financial performance of manufacturing companies in the building and construction sector in Kenya as measured by return on equity. In essence, the model is to test the statistical significance of β_1 in the resultant panel data bivariate regression as indicated in table 4.22.

Testing at 95% confidence interval and using the 0.05 level of significance, the panel regression output of ROE on TLT gives a TLT coefficient of 0.019745 as indicated in table 4.22. The corresponding t-value at 219 degrees of freedom is 1.236. This means that when compared with critical t at the same number of degrees of freedom for 220 single independent variable observations of 1.9709, then it becomes clear that the study fails to reject the null hypothesis since the output t is less than the critical t.

Table 4.22: Bivariate Regression Output of ROE on TLT

	Coefficient	**Std. Error**	**t-ratio**	**p-value**	
const	0.112687	0.005811507	19.38	0.00000	***
TLT	0.0197447	0.0159711	1.236	0.2180	

Correlation coefficients, using the observations 1:1 - 44:5

5% critical value (two-tailed) for n = 220

E	TLT	
)00	0.218097	ROE
	1.0000	TLT

The failure to reject the bivariate null hypothesis implies that the study confirms that indeed the management of long term liabilities have no significant effect on the financial performance of manufacturing firms in the building and construction industry in Kenya.

The failure to reject the null hypothesis is confirmed by the p-value of 0.2180 which is greater than 0.05 hence falling in the failure to reject region of the t-distribution. It is therefore concluded that the management of long term liabilities does not affect the performance of the study companies. The findings also point to a weak positive correlation between ROE and TLT of 0.218097. This is indicated to be statistically insignificant.

The findings are consistent with those derived from descriptive analysis done in section 4.2.5 where it had been revealed that companies under the evaluation of this study are risk takers that finance most of their assets using current assets such that the value of long term is not as significant in their balance sheets as that on the short term debt. The theoretical implications of the trade-off theory of Gitman (1974) is that use of long term debt while of a lower risk imposes higher costs of finance on the business. Possibly, the finding that the long term liabilities and their management do not affect financial performance of the companies is due to the reality that the findings show that they rely more on current liabilities than current assets in financing their operations and assets. The findings seem also to agree with the Modigliani and Miller (1958) theory of capital structure that explicitly postulates that capital structure (in this case the proportion of long term debt in the liability structure) has no effect on performance and therefore value of a firm. Just as Modigliani and Miller (1958) postulated, the structure and management of long term debt does not have an influence on the performance of the manufacturing firms in the building and construction sector in Kenya.

Besides the theoretical implication of the findings, the results can also be compared to the empirical findings from similar extant studies. One of the studies that seem to contradict the findings from this study is that of Nassar (2016) which was done on industrial companies listed at the Istanbul Stock Exchange. The findings from that study had revealed that debt ratio, the indicator of the proportion of long term debt in the capital structure had a negative effect on financial performance as measured by ROE, ROA and earnings per share. The difference could be attributable to the differences on the industry of study as well as the operational and regulatory environments in which

these two studies are conducted. Similar to Nassar (2016), Magoro and Abeywardhana (2017) had also found out that the management of debt as indicated by debt ratio had a negative effect on the financial performance of retail and wholesale companies listed at the Johannesburg Stock Exchange.

A study that seems to mirror the findings of this study are those observed in Romania where Vatavu (2015) found no significant relationship between debt and financial performance of manufacturing companies at the Bucharest Stock Exchange. The only difference with the current study is that Vatavu (2015) had a large sample of 196 companies while this study relies on a narrower sample of 220 companies. Whereas this finding in Vatavu (2015), as is also the case in the present study, is in conformity with the expectations of the Modigliani and Miller (1958) expectations, it may also show the indifference of managers in exploiting debt as Jensen and Meckling (1976) would aptly conclude in their agency theorization.

In an interesting set of results that shows that the effect is not only positive, but also zero as well as negative, Tauseef, Lohano and Khan (2015) while studying the textile industry in Pakistan shows that the effect of long term debt structure on financial performance is curvilinear and that it starts by being positively related to an optimal point of 56% of debt to asset ratio. Beyond this point, the interrelationship is negative. This may be because of the variations in the trade-off between the benefits of using debt to finance business assets versus the financial distress costs of using debt in the company capital structure.

4.4.5 Bivariate Effect of Financial Reporting Lag Ratio on Financial Performance

The moderating variable used in this study was the quality of financial statements. The quality of financial reporting was pegged on timeliness as a quality of financial information relevance and was assessed on the basis of the financial reporting lag (FRL) as well as the reporting lag ratio (RLR) being the ratio of the lag in days between the end of the financial period and the date financial statements are released to the number of

days in the financial period (365). Before verifying the moderating effect of the quality of financial reporting on the interrelationship between asset and liability management on one hand and financial performance on the other, the initial step involved checking out the bivariate relationship between reporting lag ratio and return on equity. Similar procedures performed on the bivariate models between the study independent variables and financial performance were performed.

Accordingly, just as was the case of current asset management, current liability management, fixed assets management and long term liability management, the analysis of the relationship between reporting lag ratio and ROE commenced with the diagnostic testing of the panel model suitability with respect as to whether to use a fixed effects, random effects or pooled model of analysis. The model was presented as:

$$ROE_{i,t} = \beta_0 + \beta_1 RLR_{i,t} + e_{i,t}$$

As a precursor to checking the adherence of the data to the model assumptions, the first test involved checking the Hausman model specification test to verify as to whether the data was best suited for the random effects or the fixed effects panel regression model. The findings are reflected in table 4.21

Table 4.23: ROE on RLR Regression Model Diagnostics

Mean dependent var	0.119680	S.D. dependent var	0.025915
Sum squared resid	0.125804	S.E. of regression	0.020032
R-squared	0.144626	Correlation Coeff	-0.098320
Hausman Chi-Square (1)	3.958110	Hausman Chi-square p-value	0.046646
F(44, 175)	4.352307	P-value(F)	1.70e-12
Shapiro-Wilk	3.296032	Shapiro-Wilk P-value	0.059273
Breuch-Pagan LM	3.878829	LM P-value	0.092247
Observations	220	Durbin-Watson	2.315019

The Hausman test for distinguishing between the suitability of the fixed effects and random effects modeling was based on the initial null hypothesis that the random effects model is the one that is best suited to the analysis of the data. The output from the testing using the Gretl software as revealed in table 4.23 show that the output Hausman Chi-square value is 4.35231. This has a corresponding p-value of 0.00000. The obvious interpretation is that the model p-value is far lower than the critical p-value of 0.05 with the implication that the null hypothesis is rejected leaving the fixed effects model as the most viable panel regression model for the study. This is most probably caused by the stability that is afforded by the short study period of 5 years that make the fundamentals to remain constant across the industry over this time in line with the explanations provided by Gujarati (2011).

Having accepted the versatility of the fixed effects model in the context of the sample data, additional diagnostic tests were carried out to check the model fit on the data as well as the assumptions of normality, serial correlation and homoscedasticity. The findings are also indicated in table 4.23 are further discussed in the paragraphs that follow.

In the resultant model, RLR can be used to explain 14.46% of the changes ROE. This is because the coefficient of determination as indicated by R-squared is a value of 0.1446. This low value is expected since the quality of financial reporting is unlikely to affect current financial statements but potentially the future ones if efforts are made by

management to reduce the financial reporting lag time over time in a bid to improve timeliness of financial reporting. With respect to the panel regression model assumptions, the first one to be tested was normality through the use of the Shapiro-Wilk statistic.

From the output in table 4.23, the Shapiro-Wilk was established to be 3.29603 which had a p-value of 0.059273. This value is higher than the critical value of 0.05 and the error term is assumed to be approximately normal. In testing the assumption of homoscedasticity, the Breuch-Pagan LM was used with the null-hypothesis that the error term is not homoscedastic. The output reveals a Breuch-Pagan LM value 3.87883 and a corresponding p-value of 0.09225 which is higher than the critical p-value of 0.05. This leads to the rejection of the null hypothesis and acceptance of the fact that the data is devoid of any statistically significant heteroscedasticity problems. The Durbin-Watson d-statistic of 2.31502 is approximately equal to 2, an indicator of absence of a serious problem of serial correlation in the data. As for model stability for analysis, the critical F-ratio of 0.000000 is lower than the output F-ratio of 4.35231. This makes the model stable and suitable for analysis.

Having confirmed model suitability, the regression output of ROE on RLR is presented in table 4.24. The bivariate null hypothesis was that the quality of financial reporting as indicated by reporting lag ratio (RLR) has no significant effect on the financial performance (as indicated by ROE) of manufacturing companies in the building and construction sector in Kenya. In essence, the model is to test the statistical significance of β_1 in the resultant panel data bivariate regression as indicated in table 4.24.

Checking table 4.24 shows that the coefficient of RLR, the indicator of the quality of financial reporting in the bivariate panel regression output is -0.25847 with a standard error of 0.12892. The corresponding t-value at 95% confidence interval is -2.005. This when compared at the standard t-value from student t- distribution with 219 degrees of freedom of 1.9709 clearly shows that the computed regression t is greater than the standard critical t. This leads to the rejection of the null hypothesis that the quality of

financial reporting as represented by the reporting lag ratio has no significant effect on financial performance as shown by return on equity. The conclusion is that financial reporting lag has a negative effect on financial performance and that the longer the financial reporting lag the poorer the financial performance and vice versa.

Table 4.24: Bivariate Regression Output of ROE on RLR

	Coefficient	Std. Error	t-ratio	p-value	
const	0.163041	0.0217020	7.513	0.00000	***
RLR	-0.258469	0.128915	-2.005	0.0465	**
Correlation coefficients, using the observations 1:1 - 44:5					
5% critical value (two-tailed) for n = 220					
Ǝ	RLR				
)00	-0.098320	ROE			
	1.0000	RLR			

The conclusion that financial reporting lag has a negative influence on financial performance is very plausible given that delayed financial reporting makes the resultant reported information less timely and could therefore involve poor decision making leading to poor financial performance as observed by Oluoch (2014). The negative association between reporting lag ratio, the indicator of quality of financial reporting, and return on equity, the indicator of financial performance, is confirmed by the coefficient of correlation. From Table 4.24, the Pearson's coefficient of correlation is -0.0983, which is a weak negative correlation. It is therefore conclusive that the timeliness of financial reporting is associated with the performance of manufacturing firms in the building and construction sector in Kenya and that firms in this sector can improve their financial performance by having timely financial reports characterized by short financial reporting lags as this would improve the quality of information on which managers base their financing, investing, liquidity, capital structure, risk management and other financial management decisions and thereby boost future financial performance.

The findings are consistent with the earnings quality theory that is supported by Oluoch (2014) who asserts that useful accounting information must be characterized by some

qualitative characteristics one of which is relevance. Information is said to be relevant if it can have a bearing on decisions of users of that information like managers and investors among others. A key plank of relevant information is the attribute of timeliness where late provision of information renders it less than valuable for decision making. This is confirmed by this finding in which long financial reporting lags are associated with lower returns on equity and vice versa.

The results could also be explained in terms of the agency theory of Jensen and Meckling (1976) according to whom, the agency conflict between managers and shareholders is such that managers may take decisions that advance their private interests at the expense of the overall welfare of a business. One decision that is in the hands of managers is the date of release of financial statements. They have a direct influence on the financial reporting lag. For their own interests, they may drag the release of financial information when results are poor and vice versa such that there is a relationship between the financial reporting lag and the financial performance reported in the financial statements. In other words, they could use the reporting date as a signal to other users of financial statements as to the versatility of the financial performance.

Besides the theoretical arguments, the findings in table 4.24 that financial reporting lag ratio is inversely related to financial performance can be compared and contrasted with extant empirical literature. In Ghana for instance, Agyei-Mensah (2018), studying the relationship between financial reporting lag and financial performance revealed a negative association just like has been revealed in this study. Hence the current findings are corroborated by those of Agyei-Mensah (2018), possibly because the two studies are done in countries with similar regulatory and operational regimes in the developing world. Similar findings were reported in Iran by Arianpoor (2019) In Kenya, Mathuva, Tauringana and Owino (2019) show that the factors that lengthen the financial reporting lags are the size of the board of directors, the frequency of board meetings and the independence of the board of directors. Factors that have the opposite effect are the board diversity and the long tenure for independent directors

Contradictory findings have been reported in the Middle East and North Africa countries where Attia, Lassoued and Sassi (2019) while evaluating commercial banks in those countries and using value relevance of earnings information as an indicator of financial performance revealed that long financial reporting lags are associated with high value relevance and vice versa. Accordingly unlike Agyei-Mensah (2018), Attia, Lassoued and Sassi (2019) a positive relationship between financial reporting lag and financial performance. The contradiction could be arising from the different measure used in indicating performance as well as the varying regulatory environment between Kenya and the Middle East and North African countries.

In Indonesia, Mappadang, Wijaya and Mappadang (2021) provided results that showed that there is zero relationship between financial reporting lags and the level of financial performace as measured by profitability. Whereas theory expects a negative performance and in some cases positive when agency relationships are taken to account, in Indonesia, Mappadang, Wijaya and Mappadang (2021) find no such relationships. The finding could be attributable to the regulatory nature of the Indonesian financial reporting environment or the focus on a sole sector being industrial manufacturing firms.

4.5 Bivariate Moderated Analytical Inferential Findings

Besides the bivariate panel evaluation of the effect of asset and liability management on financial performance that has been evaluated, this study also undertook to check the moderating effect of the quality of financial reporting on this interrelationship. From the direct bivariate analysis in section 4.4, it was found out that two variables current liability management (as measured by current liability structure) and fixed assets management (as measured by fixed assets turnover ratio) had a positive effect on financial performance as indicated by ROA. Further, current assets management (as measured by current asset structure) and timeliness of financial reporting (as measured by the financial reporting lag) both had a negative effect on financial performance. Lastly, long term liabilities management as measured by term liabilities turnover had no effect on financial performance. In this section, the objective is to found out if these

interrelationships are moderated by the introduction of the financial reporting lag as a moderating variable given that it indicates the quality of financial information used in financial decision making which could in turn influence financial performance. Each of the variables are evaluated independently for the moderation effect in the following subsections.

4.5.1 Bivariate Moderated Effect of Current Asset Management on ROE

The analysis of the moderated relationship of the effect of current asset management on financial performance started with the diagnostic testing of the panel model suitability with respect as to whether to use a fixed effects, random effects or pooled model of analysis. The model was presented as:

$$ROE_{i,t} = \beta_0 + \beta_1 CAS_{i,t} + \beta_2 m * CAS_{i,t} + e_{i,t}$$

The model diagnostic tests that were carried out before the panel regression are indicated in table 4.25. The moderating factor was the quality of financial reporting as indicated the financial reporting lag ratio.

Table 4.25: Moderated ROE on CAS Regression Model Diagnostics

Mean dependent var	0.119680	S.D. dependent var	0.025915
Sum squared resid	0.077946	S.E. of regression	0.021165
R-squared	0.470027	Correlation Coeff	0.332965
Hausman Chi-Square (1)	17.6311	Hausman Chi-square p-value	0.000148
F(45, 174)	3.429299	P-value(F)	3.44e-09
Shapiro-Wilk	1.8243	Shapiro-Wilk P-value	0.064996
Breuch-Pagan LM	14.6918	LM P-value	0.000127
Observations	220	Durbin-Watson	1.767834

Just like for the case of the unmoderated bivariate analysis, the evaluation of the moderating influence of quality of financial reporting on the effect of current asset management on financial performance started with the choice of the most suitable panel analysis model. With respect to model specification, the null hypothesis was that random effects model is the most suited for analysis as opposed to the fixed effects model. The output from table 4.25 provides a chi-square value of 17.6311 which a corresponding p-value of 0.00000 which is less than the critical value of 0.05. Accordingly, the null hypothesis was rejected and therefore the fixed effects model was found to be the one suitable for this bivariate regression analysis.

The assumption of normality was checked by the use of the Shapiro-Wilk Statistic which gave a value of 1.8243 and a corresponding p-value of 0.064996. The p-value is greater than 0.05 hence the data and error term are normally distributed. As for the case of the variance in the error term the Breuch-Pagan LM was used to test for homoscedasticity. The Lagrange Multiplier was a value of 14.6918 which a corresponding p-value of 0.127010. That the p-value greater than 0.05 shows that the error term distribution is homoscedastic. With respect to serial correlation, the Durbin-Watson d-value of 1.767834 is approximately 2 thereby indicating absence of statistically significant autocorrelation as is articulated by Gujarati (2011). The stability of the model in carrying out the analysis is checked using the model F-test. This provides an F-value of 3.4293 which is greater than the significant F-value of 0.000. This indicates that the model is suitable for analysis as suggested by Gujarati (2011).

The model provides an R-squared value of 0.470027 which indicates that 47% of the changes in ROE are explained by the variations in CAS and the moderator factor while the remainder of the variations are attributable to other factors outside of this independent variable.

Having confirmed that the model assumptions are upheld, the regression was run and the output is indicated in table 4.26.

Table 4.26: Moderated Bivariate Regression Output of ROE on CAS

Fixed-effects Included 44 cross-sectional units Time-series length = 5 (220 Observations) Dependent variable: ROE

	Coefficient	Std. Error	t-ratio	p-value	
const	0.286701	0.0174659	16.4148	<0.00001	***
CAS	-0.366604	0.0721965	-5.0779	<0.00001	***
mCAS	-0.58385	0.258622	-2.2575	0.02522	**

The findings in table 4.26 had been run on the null hypothesis that the quality of financial reporting as indicated by the financial reporting lag ratio has no significant moderating influence on the effect of current asset management (as indicated by the current asset structure) on financial performance (as indicated by the return on equity). mCAS, the moderated factor provides a coefficient of -0.58385 with a t-value of -2.2575. This t when compared with the critical t at 218 degrees of freedom of 1.9709. This is clearly less than the output t and therefore the null hypothesis is rejected with the conclusion that quality of financial reporting has a negative moderating effect on the relationship between current asset structure and return on assets. This implies that the longer the financial reporting lag period, the poorer the financial performance and vice versa. In addition, the inclusion of the moderator variable improves the coefficient of determination from 45.45% shown in table 4.15 to 47.0027% as indicated in table 4.26. Therefore the model accuracy is improved by 1.5523 percentage points when the reporting influence is added to the bivariate model as a moderator.

Theoretically, the shortening of the financial reporting lag period is expected to improve the timeliness of financial reporting which automatically translates ato a higher quality of financial reporting and vice versa (Oluoch, 2014). This is the reason behind the RLR having a negative moderating effect on financial performance given that high RLR (long lag period) lowers down financial performance by lowering the return on equity. This can be explained by the agency theory of Jensen and Meckling (1976) who demonstrate that managers can take steps like, in the context of this study, varying the financial reporting date. This could affect performance negatively is they lengthen the period and positively if they shorten the period depending on which outcome best serves their private interests at the expense of the shareholders.

4.5.2 Bivariate Moderated Effect of Current Asset Management on ROE

The second moderating effect tested was that between current liability management and financial performance as moderated by the financial reporting lag ratio. The generic model was presented as:

$$ROE_{i,t} = \beta_0 + \beta_1 CLS_{i,t} + \beta_2 m * CLS_{i,t} + e_{i,t}$$

The choice of the most suitable analytical panel model was facilitated through the use of the Hausman test. The Hausman chi square value in the output in table 4.27 is identified as 1.9141 which has a corresponding p-value of 0.0384. The value is less than the critical value of 0.05 therefore leading to the rejection of the assumption that the random effects model is well suited for analysis. Accordingly, the fixed effects model was adopted in the analysis. Further model assumption tests were carried out with respect to normality, heteroscedasticity, auto-correlation and model stability. The findings are shown in table 4.27.

From the findings, the data is normally distributed given that the Shapiro-Wilk statistic of 1.3672 has a p-value that is greater than 0.05 which is specified at 0.734. The data

does not also suffer from any serious problems of serial correlation given that as per Gujarati (2011) recommendation, the Durbin-Watson d-statistic used in measuring for autocorrelation has a value of 1.775 which is close to 2.

Table 4.27: Moderated ROE on CLS Regression Model Diagnostics

Mean dependent var	0.119680	S.D. dependent var	0.025915
Sum squared resid	0.059587	S.E. of regression	0.018506
R-squared	0.594851	Correlation Coeff	0.490071
Hausman Chi-Square (1)	1.914090	Hausman Chi-square p-value	0.038403
F(45, 174)	5.677145	P-value(F)	3.39e-17
Shapiro-Wilk	1.3672	Shapiro-Wilk P-value	0.734
Breuch-Pagan LM	4.6275	LM P-value	0.314027
Observations	220	Durbin-Watson	1.774923

With respect to homoscedasticity, the Breuch-Pagan Lagrange Multiplier (LM) is used giving an output value of 4.6275 and a corresponding p-value of 0.314027. That the p-value is greater than the critical value of 0.05 implies that the error term has a variance that is approximately constant making it homoscedastic. The model stability is indicated by the F-test that has an output value of 5.6771 and a p-value of 0.000000. This is indicative of a very stable panel data model for regression purposes.

The null hypothesis tested in this case is that quality of financial reporting as shown by the financial reporting hag ratio has no significant moderating influence on the effect of current asset management on financial performance. The panel regression output is provided in table 4.28.

Table 4.28: Moderated Bivariate Regression Output of ROE on CLS

Fixed-effects Included 44 cross-sectional units Time-series length = 5 (220 Observations) Dependent variable: ROE

	Coefficient	Std. Error	t-ratio	p-value	
const	0.0189502	0.00709805	2.670	0.0082	***

CLS	1.0242500	0.0765401	13.38	3.55e-030	***
MCLS	-0.490979	0.256583	-1.914	0.0570	*

The initial bivariate analysis in section 4.4 had shown that current liability management has a positive effect on financial performance. When the moderating influence of financial reporting lag period is added to the analysis, the findings in table 4.28 show that the moderating variable coefficient is -0.49097. The corresponding t-value is -1.914. This can be compared with the critical t-value at 95% confidence interval and 218 degrees of freedom of 1.9709. The regression output t is therefore less than the critical t as can be confirmed by the p-value of 0.0570 which is greater than the critical p-value of 0.05. Both these show that the study fails to reject the null hypothesis that quality of financial reporting has no significant moderating influence on the effect of current liability management on financial performance of manufacturing firms in the building and construction sector in Kenya. Accordingly, it is concluded that financial reporting lag (the indicator of the quality of financial reporting) has no moderating influence on how current liability management relates with financial performance. It is noteworthy that the moderated model has a higher coefficient of determination of 0.594851 despite the lack of statistical significance of the moderator coefficient. This is compared to the initial bivariate R-square of 0.589524 reported in section 4.4.

The finding that financial reporting lag period does not moderate the relationship between current liability management and financial performance could be because current liabilities are often settled within a very short period of time. Given that financial reporting is an ex ante report of what has transpired in a given financial period, the reporting lag whether long or short may not affect what has already transpired in terms of financial events and transactions. This could partly explain the absence of the moderating influence of financial reporting lag on the effect of current liability management on financial performance of manufacturing companies in the building and construction sector in Kenya.

4.5.2 Bivariate Moderated Effect of Fixed Asset Management on ROE

The third moderating effect tested was that between fixed asset management and financial performance as moderated by the fixed assets turnover ratio. The generic model was presented as:

$$ROE_{i,t} = \beta_0 + \beta_1 FAT_{i,t} + \beta_2 m * FAT_{i,t} + e_{i,t}$$

The choice of the most suitable analytical panel model was facilitated through the use of the Hausman test. The Hausman chi square value in the output in table 4.29 is identified as 14.7372 which has a corresponding p-value of 0.000631. The value is less than the critical value of 0.05 therefore leading to the rejection of the assumption that the random effects model is well suited for analysis. Accordingly, the fixed effects model was adopted in the analysis. Further model assumption tests were carried out with respect to normality, heteroscedasticity, auto-correlation and model stability. The findings are shown in table 4.29.

Table 4.29: Moderated ROE on FAT Regression Model Diagnostics

Mean dependent var	0.119680	S.D. dependent var	0.025915
Sum squared resid	0.045934	S.E. of regression	0.016248
R-squared	0.687680	Correlation Coeff	0.606908
Hausman Chi-Square (1)	14.7372	Hausman Chi-square p-value	0.000631
F(45, 174)	8.513804	P-value(F)	1.06e-25
Shapiro-Wilk	9.9922	Shapiro-Wilk P-value	0.098411
Breuch-Pagan LM	16.7705	LM P-value	0.060001
Observations	220	Durbin-Watson	2.013548

Breuch-Pagan Lagrange Multiplier (LM) is to test for heteroscedasticity. Table 4.29 provides an LM output of 16.7705 and a corresponding p-value of 0.060001. That the p-value is greater than the critical value of 0.05 implies that the error term has a variance that is approximately constant making it homoscedastic. The model stability is indicated by the F-test that has an output value of 8.5138 and a p-value of 0.000000. This is indicative of a very stable panel data model for regression purposes.

The null hypothesis tested in this case is that quality of financial reporting as shown by the financial reporting hag ratio has no significant moderating influence on the effect of non-current asset management on financial performance. The panel regression output is provided in table 4.30.

Table 4.30: Moderated Bivariate Regression Output of ROE on FAT

Fixed-effects Included 44 cross-sectional units Time-series length = 5 (220 Observations) Dependent variable: ROE

	Coefficient	Std. Error	t-ratio	p-value	
const	0.038244	0.00503118	7.6014	<0.00001	***
FAT	0.173417	0.0392358	4.4199	0.00002	***
mFAT	0.440727	0.198131	2.2244	0.02741	**

The initial bivariate analysis in section 4.4 had shown that non-current asset management has a positive effect on financial performance. When the moderating

influence of financial reporting lag period is added to the analysis, the findings in table 4.30 show that the moderating variable coefficient is 0.440727. The corresponding t-value is 2.2244. This can be compared with the critical t-value at 95% confidence interval and 218 degrees of freedom of 1.9709. The regression output t is therefore higher than the critical t as can be confirmed by the p-value of 0.02741 which is less than the critical p-value of 0.05. Both these show that the study rejects the null hypothesis that quality of financial reporting has no significant moderating influence on the effect of non-current asset management on financial performance of manufacturing firms in the building and construction sector in Kenya. Accordingly, it is concluded that financial reporting lag (the indicator of the quality of financial reporting) has a positive moderating influence on how non-current asset management relates with financial performance. It is noteworthy that the moderated model has a higher coefficient of determination of 0.687680 compared to the initial bivariate R-square of 0.598040 reported in section 4.4. The financial reporting lag ratio improves the model accuracy by 8.96 percentage points.

The finding that financial reporting lag period positively moderates the relationship between non-current asset management and financial performance could be attributed to the fact that the quality of financial reporting has a direct bearing on financial management decisions including the investing decisions in which category the decisions on management of fixed assets fall. With high quality and timely financial information, companies can improve the efficiency and effectiveness of such decisions as acquisition of non-current assets, major repairs, leasing of plant property and equipment, replacement decisions, abandonment decisions as well as decisions associated with mergers and decisions. It is imperative that short financial reporting lags imply improved timeliness of financial reporting and therefore the timeliness of the aforementioned decisions as asserted by Seru and Sufi (2021).

4.5.3 Bivariate Moderated Effect of Current Asset Management on ROE

The analysis of the moderated relationship of the effect of long term liability management on financial performance started with the diagnostic testing of the panel model suitability with respect as to whether to use a fixed effects, random effects or pooled model of analysis. The model was presented as:

$$ROE_{i,t} = \beta_0 + \beta_1 TLT_{i,t} + \beta_2 m * TLT_{i,t} + e_{i,t}$$

The model diagnostic tests that were carried out before the panel regression are indicated in table 4.31. The moderating factor was the quality of financial reporting as indicated the financial reporting lag ratio.

Table 4.31: Moderated ROE on TLT Regression Model Diagnostics

Mean dependent var	0.119680	S.D. dependent var	0.025915
Sum squared resid	0.116435	S.E. of regression	0.025868
R-squared	0.208330	Adjusted R-squared	0.003588
Hausman Chi-Square (1)	9.26745	Hausman Chi-square p-value	0.097214
F(45, 174)	1.017524	P-value(F)	0.452284
Shapiro-Wilk	7.6794	Shapiro-Wilk P-value	0.358816
Breuch-Pagan LM	4.02787	LM P-value	0.054755
Observations	220	Durbin-Watson	1.706713

The evaluation of the moderating influence of quality of financial reporting on the effect of long term liability management on financial performance started with the choice of the most suitable panel analysis model. With respect to model specification, the null hypothesis was that random effects model is the most suited for analysis as opposed to the fixed effects model. The output from table 4.31 provides a chi-square value of 9.26745 which a corresponding p-value of 0.00097 which is less than the critical value of 0.05. Accordingly, the null hypothesis was rejected and therefore the fixed effects model was found to be the one suitable for this bivariate regression analysis.

The assumption of normality was checked by the use of the Shapiro-Wilk Statistic which gave a value of 7.6794 and a corresponding p-value of 0.097214. The p-value is greater than 0.05 hence the data and error term are normally distributed. As for the case of the variance in the error term the Breuch-Pagan LM was used to test for homoscedasticity. The Lagrange Multiplier was a value of 4.02787 which a corresponding p-value of 0.054755. That the p-value greater than 0.05 shows that the error term distribution is homoscedastic. With respect to serial correlation, the Durbin-Watson d-value of 1.706713 is approximately 2 thereby indicating absence of statistically significant autocorrelation as is articulated by Gujarati (2011). The stability of the model in carrying out the analysis is checked using the model F-test. This provides an F-value of 1.017524 which is greater than the significant F-value of 0.452284. This indicates that the model is suitable for analysis as suggested by Gujarati (2011).

The model provides an R-squared value of 0.208330 which indicates that 20.833% of the changes in ROE are explained by the variations in TLT and the moderator factor while the remainder of the variations are attributable to other factors outside of this independent variable.

Having confirmed that the model assumptions are upheld, the regression was run and the output is indicated in table 4.32.

Table 4.32: Moderated Bivariate Regression Output of ROE on TLT

Fixed-effects Included 44 cross-sectional units Time-series length = 5 (220 Observations) Dependent variable: ROE

	Coefficient	Std. Error	t-ratio	p-value	
const	0.0972794	0.00804775	12.0878	<0.00001	***
TLT	0.051618	0.0126695	4.0742	0.00007	***
mTLT	-0.216219	0.0689877	-3.1342	0.00202	***

The initial findings before consideration of the moderation effect was that long term liability management as indicated by long term liability turnover has no significant effect on financial performance of manufacturing companies in the building and construction industry in Kenya. After the moderation is taken into account, being the financial reporting lag as indicated by the financial reporting lag ratio, the findings become significant. With moderation of the quality of accounting, the effect becomes two-fold. Firstly, the effect of long term liability management becomes positive on performance. This is because the coefficient of TLT, the term liability turnover ratio, is a positive value of 0.051618. The corresponding t-value is 4.0742 which is statistically significant given that it is higher than the critical t at 95% confidence interval and 218 degrees of freedom of 1.9709. This is confirmed by the p-value of 0.00007 which is less than the critical value of 0.05 making it fall in the rejection region.

The second effect is that when the moderating effect is checked, the moderating factor has a coefficient of -0.216219 with a corresponding t-value of -3.1342. On this account alone, the null hypothesis that the quality of financial reporting as indicated by the financial reporting lag ratio has no significant moderating influence on the effect of management of long term liabilities on financial performance is out rightly rejected. The conclusion is that the financial reporting lag ratio has a negative moderating influence on the effect of management of long term liabilities on financial performance. This is confirmed by the statistically significant p-value of 0.00202 which is less than the critical value of 0.05. This implies that the longer the financial reporting lag, the poorer the financial performance of the businesses and vice versa.

The financial reporting theory supported here is that the timeliness of financial reporting positively impacts financial performance. Oluoch (2014) indicates that the timeliness of information is a secondary characteristic of relevance as a quality of financial information. In that respect, companies that have a low financial reporting lag have a corresponding good financial performance and vice versa for those that do not have timely financial reporting. The other secondary characteristics revealed by Oluoch (2014) with respect to relevance of financial information are forecast value and feedback

value both of which can be catered for by a short financial reporting lag. This is because a short financial reporting time provides very early opportunities for feedback from the financial statements as well as an early basis for making financial forecasts bout the future financial performance, position and adaptability of the firm.

As a consequence of the foregoing, shortening the financial reporting lag period not only improves the timeliness of information, but also ability to make decision revisions and forecasts. Since long term liabilities have a cost associated with them, it is possible that the early provision of information will enhance the managerial ability to make financing decisions with respect to procurement of long term liabilities, their repayment and the appropriate financing partners. It is because of this that the relationship between financial performance and management of long term liabilities is moderated by the timeliness of financial reporting as indicated by the financial reporting lag period and ratio.

4.6 Multivariate Analytical Inferential Findings

This study was based on the separated and combined influence of asset and liability management on financial performance of manufacturing firms in the building and construction sector in Kenya. This was also to be checked alongside the moderating influence of the quality of financial reporting on this interrelationship. In this section, the inferential statistical findings on this relationship is analyzed. Just like for the foregoing sections, the effect is first of all checked by identifying the most suitable model of analysis from among the fixed effect and the random effects models given that the data has both cross sectional aspects of 44 companies as well as time series aspects of the five years used in the study being 2016 to 2020. Then combined model of analysis is presented as:

$$\text{ROE}_{i,t} = \beta_0 + \beta_1 \text{CAS}_{i,t} + \beta_2 \text{CLS}_{i,t} + \beta_3 \text{FAT}_{i,t} + \beta_4 \text{TLT}_{i,t} + e_{i,t}$$

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4.6.1 Multivariate Panel Model Diagnostic Tests

The initial decision before the regression was conducted was to determine the most appropriate model for panel regression analysis. The choice was to be made between fixed effects panel model and the random effects panel model. The model choice null hypothesis was specified as that the random effects model was the most suited for the multivariate analysis. The Hausman test suggested by Gujarati (2011) was used in this testing. The findings are indicated in table 4.33.

Table 4.33: Multivariate Regression Model Diagnostics

Mean dependent var	0.119680	S.D. dependent var	0.025915
Sum squared resid	0.028639	S.E. of regression	0.012904
R-squared	0.805274	Correlation Coeff	0.752064
Hausman Chi-Square (1)	27.298	Hausman Chi-square p-value	1.73e-005
F(47, 172)	15.13389	P-value(F)	6.74e-41
Shapiro-Wilk	671.9600	Shapiro-Wilk P-value	0.192011
Breuch-Pagan LM	6.76708	LM P-value	0.092854
Observations	220	Durbin-Watson	2.086147

The Hausman test chi square value is reported as 27.298 with a significant value of 0.000000 which is lower than the critical value of 0.05. This leads to the rejection of the model null hypothesis and the choice of the fixed effects model as the most appropriate analytical model for the multivariate regression analysis of the effect of asset and liability management on financial performance of the manufacturing companies in the building and construction sector in Kenya. The model stability was tested by the use of the F-statistic that was a value of 15.13389 which was far greater than the critical value of 0.000000. Just like was the case for the bivariate models, this model is found suitable and stable for analysis in line with the guidelines of Gujarati (2011).

Serial correlation was tested using the Durbin-Watson d-statistic. Gujarati (2011) suggests that d-statistic value that is close to 2 implies lack of a serious problem of autocorrelation among the study variables. The output in table 4.33 shows a Durbin-Watson d-statistic of 2.086147 which is close to 2 and therefore the conclusion is the rejection of the null hypothesis that the data has serious problems of serial dependence. With this conclusion, the fixed effects model can be used in evaluating how assets and liabilities managements affects the performance of manufacturing companies in the building and construction sector in Kenya.

Homoscedasticity, the property of the random error term to have a constant variance was also tested for the multivariate model. Breuch-Pagan test is one of the tests suggested by Gujarati (2011) for testing for this property. The error term is said to be homoscedastic if

the Breuch-Pagan test provides a Lagrange Multiplier value that is higher than the significant value of 0.05. The output in table 4.33 provides an LM p-value of 0.092854. This figure is greater than 0.05 hence the study arrives at the conclusion that the data is consistent and devoid of any serious problems of heteroscedasticity.

The random error term and data are expected to assume a Gaussian distribution. To this end, Gujarati (2011) provides a number of measures for evaluating this normality. One of this which was used in this study was the Shapiro-Wilk statistic. The results in table 4.33 show a Shapiro_wilk value of 0.192011 which is higher than 0.05, the significance value. Accordingly the null hypothesis of non-normality is rejected and its concluded that the model aligns with the Gaussian distribution expectations.

Since the multivariate analysis involves more than one independent variable, it is critical to check out for multicollinearity. Whereas the joint correlation between the independent variables are ROE is shown as a positive strong correlation of 0.75 in table 4.33, table 4.34 shows the findings with respect to multiple correlation analysis.

Table 4.34: Multivariate Correlational Analysis Output

Correlation coefficients, using the observations 1:1 - 44:5

5% critical value (two-tailed) = 0.1323 for n = 220

ROE	CAS	CLS	FAT	TLT	RLR	
1.0000	-0.649485**	0.698421**	0.075330**	0.218097**	-0.098320*	ROE
	1.000000	-0.03673	-0.08607	0.03475	0.0841	CAS
		1.0000	0.05283	0.03736	-0.0277	CLS
			1.0000	-0.0500	-0.0918	FAT
				1.0000	0.0144	TLT
					1.0000	RLR

The findings in table 4.34 shows that whereas each of the independent variables is statistically significant with respect to how they relate with the ROE, the correlation among each among themselves is statistically insignificant as shown by the asterisks.

One of the measures that was taken to avoid the problem of collinearity was the use of fixed assets turnover and term liabilities turnover instead of asset tangibility and term liability structure respectively. This was because asset tangibility is dependent on current asset structure just the same way term liability structure is related to current liability structure given that structure takes a common denominator for both current and non-current values such that its use for all the four variables would automatically lead to multicollinearity.

The resultant model has an R-square value of 0.805274 which implies that 80.53% of the changes in financial performance are explained by the joint effect of the changes in current asset structure, current liability structure, fixed assets turnover and long term liabilities turnover. This is a great improvement over the bivariate models where the respective coefficients of determination were 45.5%, 58.95%, 59.8% and 16.36% for current asset structure, current liability structure, fixed assets turnover and long term liabilities turnover. The section that follows provides the multiple linear fixed effects panel regression model output.

4.6.2 Multivariate Regression Output

A panel regression of ROE on each of the four indicators of management of assets and liabilities by manufacturing companies in the building and construction sector in Kenya was run on the Gretl statistical software. The output is indicated in table 4.35

Table 4.35: Multivariate Regression Output

Fixed-effects Included 44 cross-sectional units Time-series length = 5 (220 Observations) Dependent variable: ROE

	Coefficient	Std. Error	t-ratio	p-value	
const	0.0225746	0.0304096	0.7424	0.45889	
CAS	-0.726249	0.0292535	24.83	01.66e-025	***
CLS	0.451415	0.0631966	7.1430	<0.00001	***
FAT	0.173986	0.02651	6.5631	<0.00001	***
TLT	0.0127337	0.00378689	3.3626	0.00095	***

The output shows that all the variables are statistically significant as indicated by the three asterisks on each of the four of them in table 4.35. This gives a regression output model that can be summarized as:

$$ROE_{i,t} = 0.02257 - 0.72625CAS_{i,t} + 0.45141CLS_{i,t} + 0.17399FAT_{i,t} + 0.01273TLT_{i,t}$$

The resultant analysis and discussion in provided in the sub-sections that follow below

4.6.3 Multivariate Effect of Current Asset Management on Financial Performance

The first element to be tested in the multivariate set-up was the management of current assets. This was represented by the current asset structure which is the ratio of current assets to the total assets of the company. The null hypothesis was that current asset management as a partial component in a multi-variable set-up that includes the management of current liabilities, fixed assets as well as term liabilities, has no significant effect on financial performance of manufacturing companies in the building and construction sector in Kenya. The findings are presented in table 4.35.

From the findings, CAS has coefficient of -0.726249 with a corresponding t-statistic of 24.83. The critical t value at 95% confidence interval and 216 degrees of freedom for a two tailed test is 1.971. The fact that the output regression t is greater than the critical t

implies, as Gujarati (2011) explains, that the coefficient is statistically significant. This can also be confirmed by checking the p-value and comparing with the 0.05 significance value. The output p-value is 0.000000 while the critical t is 0.05. Again Gujarati (2011) explains that when this is so, the coefficient values are significant.

From the above analysis, the null hypothesis stated in chapter 1 section 1.4 that current asset management has no significant effect of financial performance of manufacturing companies in the building and construction sector in Kenya is rejected. The conclusion arrived at is that current asset management has a negative effect on financial performance such that the higher the current asset structure, the poorer the financial performance as measured by return on assets. The findings are support the theoretical assumption of risk-return tradeoff of Gitman (1974) where excessive current assets on the balance sheet are likely to impose high opportunity cost of lost income and therefore lead to poor financial performance.

Empirically, the findings are in contradiction of those of Njeru (2016) who found that current asset management particularly liquidity management had a positive effect on financial performance of deposit taking SACCOs in Kenya. The contradiction could stem from the fact that SACCOs are highly regulated in Kenya with regulations on how much liquidity to have at the bear minimum. This could have influenced the finding since the SACCO set up is different from the manufacturing set up of the current study.

The findings are however consistent with that of Waswa, Mukras and Oima (2018) who found out that liquidity management had a negative effect on financial performance of companies in the sugar industry in Kenya. The only difference is that the study narrowed down on liquidity management in particular while the present study was focused on all current assets including the liquid and the illiquid current assets. Besides, the sample size was small focusing only on 5 sugar companies while this study focuses on a larger sample of 44 manufacturing companies in the building and construction sector in Kenya.

In another study in Somalia, Hassan, Muturi and Mberia (2017) had found out mixed results with respect to how current asset management affects the financial performance of water companies in the Puntland state of Somalia. Their study decomposed current assets to investory, cash and receivables and found out that while cash management and inventory management had a positive effect on financial performance of the water companies as based on return on assets, the management of receivables had a negative effect on that performance. The missed findings could be attributed to the small size of the sample that consisted of only four companies.

4.6.4 Multivariate Effect of Current Liability Management on Financial Performance

The second element to be tested in the multivariate set-up was the management of current liabilities. This was represented by the current liability structure which is the ratio of current liabilities to the total liabilities of the company. The null hypothesis was that current liability management as a partial component in a multi-variable set-up that includes the management of current assets, fixed assets as well as term liabilities, has no significant effect on financial performance of manufacturing companies in the building and construction sector in Kenya. The findings are also presented in table 4.35.

From the findings, CLS has coefficient of 0.451415 with a corresponding t-statistic of 7.143. The critical t value at 95% confidence interval and 216 degrees of freedom for a two tailed test is 1.971. The fact that the output regression t is greater than the critical t implies, as Gujarati (2011) explains, that the coefficient is statistically significant. This can also be confirmed by checking the p-value and comparing with the 0.05 significance value. The output p-value is 0.000001 while the critical t is 0.05. Again Gujarati (2011) explains that when this is so, the coefficient values are significant.

From the above analysis, the null hypothesis stated in chapter 1 section 1.4 that current liability management has no significant effect of financial performance of manufacturing companies in the building and construction sector in Kenya is rejected. The conclusion

arrived at is that current liability management has a positive effect on financial performance such that the higher the current liability structure, the better the financial performance as measured by return on assets.

From a theoretical perspective, it is expected that the use of current assets is far less costly than the use of long term liabilities in financing business operations. The usage however has an enhanced risk since the current liabilities involve a high risk compared to term liabilities whose repayment term spreads risk over a long period of time. This is the suggestion suggested by Gitman (1974) in the liquidity-profitability trade off theory. This is the theory that Ukhriyawati, Ratnawati and Riyadi (2017) rely on in their suggestion of the three approaches to managing business financing (aggressive, when a firm over relies on current liabilities; hedging, when a firm matches assets and liabilities and conservative, when a firm over relies on long term liabilities in financing operations).

Empirically, the findings of the current study are in contradiction with those of Hassan, Muturi and Mberia (2017) who found out that the management of payables, a component of current liabilities, had no significant effect on the financial performance, as based on return on assets, of water companies in the Puntland State of Somalia. Though insightful, the Hassan, Muturi and Mberia (2017) study was based on only four companies and focused on water companies as opposed to general manufacturing companies in the building and construction industry. Further, it narrowed down on only the management of payables and left out other components of short term liabilities.

In a different setting of companies listed at the Bucharest stock Exchange in Romania, Raisa and Cristian (2015) came up with results that are contradictory to those indicated in the current study. Using 50 companies from various segments of the Stock Exchange, their findings showed that the management of short term debt had a negative influence on the performance of those companies. It is noteworthy that the companies that formed the sample come from a European country that has different regulatory environment from that of Kenya and that the study by Raisa and Cristian (2015) focused on short

term debt as opposed to all the components of current liabilities like creditors and payables. In another study where short term debt had a negative influence on financial performance is that carried out in Ghana on public manufacturing companies listed at the Ghana Stock Exchange (Prempeh & Nsiah Asare, 2016)

In Kenya, Shikumo, Oluoch and Wepukhulu (2020) had carried out a study to verify how management of short term debt influences financial performance as indicated by growth in earnings per share as well as market capitalization. Their findings are consistent with those that are found in the current study since they found out that short term debt management had a positive influence on financial performance of the non-financial firms listed at the Nairobi Securities Exchange. The similarities in findings could be stemming from the fact that both studies are done in Kenya hence under a similar operational and regulatory environment. The study however focused on short term debt as opposed to general current liabilities.

4.6.5 Multivariate Effect of Fixed Asset Management on Financial Performance

The study was also concerned about the joint effect of fixed assets management on financial performance of manufacturing companies in the building and construction sector in Kenya. This was done alongside three other aspects in a multivariate model. These were the management of current assets, current liabilities and long term liabilities. The stated null hypothesis was that alongside the management of current assets, current liabilities and long term liabilities, the management of fixed assets has no significant effect on performance of manufacturing companies in the building and construction sector in Kenya.

The findings indicated in table 4.35 provides a coefficient of the fixed assets turnover (the indicator of the management of fixed assets) of 0.173986. The t-statistic for the coefficient is 6.5631 which is greater than the critical t at 95% confidence interval and 216 degrees of freedom which is a value of 1.971. Alongside the p-value of less than

0.00001, which is less than then critical p-value of 0.05 at the 5% level of significance, the output confirms that the coefficient is statistically significant.

The implication of the statistically significant coefficient of FAT is that the pre-stated null hypothesis is rejected and it is found out from this study that the management of fixed assets as indicated by fixed assets turnover has a positive effect on the financial performance of manufacturing companies in the building and construction sector in Kenya. That the higher the fixed assets turnover, the better the financial performance as indicated by the return on equity and vice versa. This implies that when a company becomes efficient and effective in managing its non-current assets, it is bound to boost its financial performance. Oluoch (2014) asserts that turnover ratios like fixed assets turnover are instrumental in gauging the efficiency and effectiveness with which resources at the disposal of a business are managed.

The findings are in line with those of Purba and Bimantara (2020) who found out that in Indonesia, the management of fixed assets as indicated by fixed assets turnover had a positive influence on financial performance of companies listed at the Indonesia Stock Exchange. The findings also mirror those of Irungu, Muturi, Nasieku and Ngumi (2018) who show that for companies listed at the Nairobi Securities Exchange, asset tangibility, an indicator of fixed assets, had a positive influence on financial performance of those public companies. This was expected because non-current assets provide the productive resources of manufacturing companies hence should be expected to boost their financial performance.

In Ghana, Musah, Kong and Osei (2019) who had three different measures of financial performance came up with mixed findings when evaluating the effect of asset tangibility on financial performance of 13 firms listed at the Ghana Stock Exchange. When return on assets was utilized as a measure of performance, it was found out that asset tangibility had no significant effect on financial performance. But this could be because the dependent variable and independent variable both had elements of assets and this could have had a multi-collinearity implications. When return on equity and return on

capital employed were used, the findings indicated that asset tangibility had a negative effect on financial performance of public firms in Ghana, contrary to the findings established in the current study.

4.6.6 Multivariate Effect of Term Liability Management on Financial Performance

The final variable with which the study was concerned with was the joint effect of long term liabilities management on financial performance of manufacturing companies in the building and construction sector in Kenya. This was done alongside three other aspects in a multivariate model. These were the management of current assets, current liabilities and fixed assets. The stated null hypothesis was that alongside the management of current assets, current liabilities and fixed assets, the management of long term liabilities has no significant effect on performance of manufacturing companies in the building and construction sector in Kenya.

The findings indicated in table 4.35 provides a coefficient of the term liabilities turnover-TLT (the indicator of the management of long term liabilities) of 0.0127337. The t-statistic for the coefficient is 3.3626 which is greater than the critical t at 95% confidence interval and 216 degrees of freedom which is a value of 1.971. Alongside the p-value of less than 0.00095, which is less than then critical p-value of 0.05 at the 5% level of significance, the output confirms that the coefficient is statistically significant.

The implication of the statistically significant coefficient of TLT is that the pre-stated null hypothesis is rejected and it is found out from this study that the management of long term liabilities as indicated by term liabilities turnover has a positive effect on the financial performance of manufacturing companies in the building and construction sector in Kenya. That the higher the term liabilities turnover, the better the financial performance as indicated by the return on equity and vice versa. This implies that when a company becomes efficient and effective in managing its long term liabilities, it is bound to boost its financial performance.

The findings are in contradiction of the Modigliani and Miller (1958) theorization that capital structure in general and debt structure in particular have no influence on the value and performance of a firm. If the theory was applicable, then the positive effect observed here would obtain. The findings also contravene the trade-off theory of Gitman (1974) under which the use of debt would increase the costs of financing and therefore reduce the profitability and financial performance of a business.

Empirically, the findings are contradictory to those of Alhassan and Islam (2021) whose evaluation of debt about other attributes among oil companies in Nigeria indicated that debt had a negative effect on financial performance. This difference in findings could be attributable to the focus on different sectors of the economy and possibly the differences in the contexts of research given that Kenya and Nigeria have varying regulatory regimes.

Some other study done in Ghana, Prempeh and Nsiah Asare (2016) among public manufacturing companies listed at the Ghana Stock Exchange had also found out, in contradiction to the findings of the current study, that long term debt, and indeed total debt had a negative influence on financial performance of those companies particularly with respect to gross profit margin, Tobin's Q and return on assets. It is however noteworthy that by relying on a sample of 5 companies over 11 years, Prempeh and Nsiah Asare (2016) had only 55 firm year observations while the current study relied on 44 companies over 5 years leading to 220 firm year observations.

4.7 Moderated Multivariate Analytical Inferential Findings

The ultimate analysis in this study involved the evaluation of the moderating influence of the quality of financial reporting as indicated by the reporting lag ratio on the effect of asset and liability management on financial performance of manufacturing companies in the building and construction sector in Kenya. This involved not only checking the joint effect of current asset management, current liability management, non-current asset management and long term liability management, but also the joint moderating effect of

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quality of financial reporting and this. The generic model for the analysis is represented as:

$$\text{ROE}_{i,t} = \beta_0 + \beta_1 \text{CAS}_{i,t} + \beta_2 \text{CLS}_{i,t} + \beta_3 \text{FAT}_{i,t} + \beta_4 \text{TLT}_{i,t} + M * (\text{ALMI}_{i,t}) + e_{i,t}$$

In the above equation M represents the moderating indicator while ALMI represents asset and liability management indicator. In this study, the asset and liability management indicators are current asset structure, current liability structure, fixed assets turnover and long term liabilities turnover respectively for the management of current assets, current liabilities, fixed assets and long term liabilities. The subsequent subsections look at the regression output and the corresponding discussion.

4.7.1 Moderated Multivariate Regression Model Diagnostics

Before determining the appropriate model to use and whether the data meets the assumption expectations of that model, diagnostic tests were carried out. The findings are presented in table 4.36.

Table 4.36: Moderated Multivariate Regression Model Diagnostics

Mean dependent var	0.119680	S.D. dependent var	0.025915
Sum squared resid	0.009190	S.E. of regression	0.007396
R-squared	0.937516	Correlation Coeff	0.918547
Hausman Chi-Square (1)	47.9608	Hausman Chi-square p-value	1.00e-007
F(51, 168)	49.42491	P-value(F)	1.98e-78
Shapiro-Wilk	6.994431	Shapiro-Wilk P-value	0.098914
Breuch-Pagan LM	7.58536	LM P-value	0.005884
Observations	220	Durbin-Watson	1.887451

Gijarati (2011) recommends a number of methods of evaluating how to choose between the fixed effects and random effects model in panel regression analysis. One of the most commonly used approaches and one which is adopted in this study is the Hausman specification tests. In this respect, it was null hypothesized that the random effects model

is the most appropriate model for carrying out the panel regression analysis in this study. If the Hausman Chi square is p-value is less than significant, then the null hypothesis should be rejected and the conclusion arrived at that the most appropriate model is the fixed effects model. This was the conclusion arrived at in this study because checking from the output in table 4.36, the Hausman output has a Chi-square of 47.96 with a p-value of 0.000000. This implies that the random effects model is inappropriate for analysis and therefore the fixed effects model was adopted.

Since the data has five years of time series observations, it is important that the data be devoid of statistically significant serial correlation (Gujarati, 2011). To this end Durbin-Watson test was used to check for serial correlation with the expectation that autocorrelation does not present a serious problem when the Durbin-Watson d-statistic approximates 2. From the output in table 4.36, the d-value of 1.88745 is not significantly different from zero and therefore it is assumed that serial correlation does not present a problem for the moderated multiple panel regression model.

The data and the random disturbance term must be normal distributed in order to have a versatile panel regression model (Gujarati, 2011). To this end Shapiro-Wilk test was used to test for normality with the expectation that the output value must have a p-value that is greater than the significant value of 0.05. From the output in in table 4.36, the statistic has a value of 6.994431 with a corresponding p-value of 0.098914. The p-value is greater than the significant value of 0.05. Accordingly the data and the random error term assume Gaussian distribution and the fixed effects model is suitable for evaluation.

Gujarati (2011) indicates that before subjecting data to panel regression analysis, one needs to test for heteroscedasticity and that one should only proceed once the variance in the random disturbance term is found to be constant. To this end the Breuch-Pagan Lagrange Multiplier was used in the analysis with an output LM value of 7.58536. Since the LM p-value of 0.05884 is greater than the critical value of 0.05, the random disturbance term is found to be homoscedastic and therefore the model is found suitable for analysis.

The model stability and suitability for analysis is confirmed by the F-test whose value of 49.42491 is greater than the critical value of 0.000000. Accordingly, the fixed effects model is found suitable for panel data analysis and the R-square value of 93.7516 implies that 93.75% of the changes in ROE is explained the management of assets and liabilities of a business as moderated by the quality of financial reporting as indicated by the financial reporting lag period ratio. The joint coefficient of correlation is 0.9185 indicating that there is a strong positive correlation between the ROE on one hand and CAS, CLS, FAT, TLT and the moderating factor. Increases in quality of management of assets and liabilities corresponds with increased financial performance as indicated by ROE.

4.7.2 Moderated Multivariate Effect on Financial Performance

The findings from the fixed effects panel regression of financial performance on asset and liability management indicators as moderated by the financial reporting lag ratio are provided in table 4.37.

Table 4.37: Moderated Multivariate Regression Output

	Coefficient	Std. Error	t-ratio	p-value	
const	0.137869	0.0237263	5.8108	<0.00001	***
CAS	-0.381831	0.0562665	-6.7861	<0.00001	***
CLS	2.23184	0.154456	14.4497	<0.00001	***
FAT	0.310626	0.0307113	10.1144	<0.00001	***
TLT	0.029573	0.00895138	3.3037	0.00117	***
mCAS	-2.35059	0.229617	-10.2370	<0.00001	***
mCLS	8.23977	0.821041	10.0358	<0.00001	***
mFAT	2.2062	0.126532	17.4359	<0.00001	***
mTLT	-0.19476	0.0505218	-3.8550	0.00016	***

The table 4.37 have four findings with respect to the moderating effect of the financial reporting lag ratio. The first finding is that financial reporting lag ratio has a negative moderating effect on the effect of current asset management as represented by current asset structure on financial performance of manufacturing companies in the building and construction companies in Kenya. This is because the moderated CAS (mCAS) has a

negative regression coefficient of -2.35059. The corresponding t value is -10.2370 which is greater than the critical t for 220 firm year observations at 95% confidence interval using 212 degrees of freedom which is 1.9712. Accordingly, the null hypothesis that quality of financial reporting and timeliness as indicated by the financial reporting lag ratio has no significant moderating influence on the effect of current asset management (as indicated by current asset structure) is rejected and conclusion made that the influence is indeed a negative moderating one. This implies that the longer the financial reporting period, the poorer the financial performance. This could be because long financial reporting lag periods are indicative of poor timeliness in financial reporting as asserted by Oluoch (2014) and therefore should affect the financial performance negatively.

The second finding as indicated in table 4.37 is that financial reporting lag ratio has a positive moderating effect on the effect of current liability management as represented by current liability structure on financial performance of manufacturing companies in the building and construction companies in Kenya. This is because the moderated CLS (mCLS) has a positive regression coefficient of 8.23977. The corresponding t value is -10.0358 which is greater than the critical t for 220 firm year observations at 95% confidence interval using 212 degrees of freedom which is 1.9712. Accordingly, the null hypothesis that quality of financial reporting and timeliness as indicated by the financial reporting lag ratio has no significant moderating influence on the effect of current liability management (as indicated by current liability structure) is rejected and conclusion made that the influence is indeed a positive moderating one. The implication is that when the quality of reporting is poor, then there is bound to be a long financial reporting lag. In the context of such a situation, the company can only improve performance by having a large proportion of current liabilities in its liability structure given that the such liabilities are less costly than long term liabilities and that in the context of a poor quality of financial reporting that can lead to poor decision making, the companies are well advised to increase their reliance of current liabilities to reduce the cost of financing and thereby boost profitability.

The third aspect of asset and liability management that was subjected to the moderation effect of financial reporting lag ratio to determine how the moderation affects the ex-ante effect on financial performance was management of non-current assets as represented by the fixed assets turnover ratio. The findings in table 4.37 are used to test the hypothesis that financial reporting lag ratio have no moderating influence on the effect of fixed assets turnover on return on financial performance of manufacturing companies in the building and construction sector in Kenya. The output reveals a coefficient of the fixed assets turnover moderating variable (mFAT) of 2.2062. The output t-value for this coefficient is 17.4359. This output t is greater than the 1.9712, which is the critical value of 220 firm year observations at 95% confidence interval and 212 degrees of freedom. Since this is higher than the critical value, the null hypothesis is rejected and it is concluded that financial reporting lag ratio has a positive influence on the effect of fixed assets management on financial performance of manufacturing companies in the building and construction sector in Kenya. This rejection of the null hypothesis can be confirmed by the p-value at 0.05 level of significance which is 0.00001. Being less than 0.05 makes the values to fall in the rejection region of the student t-distribution.

The implication of this is that in the context of a poor financial reporting regime as characterized by long financial reporting lag periods, companies are better off having a high value of non-current assets turnover. This is consistent with what Seru and Sufi (2021) asserts that non current assets are the productive assets of the business and the higher their proportion in the asset structure, the greater the business productivity and vice versa. In addition, high turnover of fixed assets indicate in line with Oluoch (2014) that there is a greater efficiency and effectiveness with which these assets are being used to generate sales and that when the quality of reporting is poor, the adverse consequences on financial performance can be overcome through improved activity levels of using those assets to generate income.

The last aspect of asset and liability management that was subjected to the moderation effect of financial reporting lag ratio to determine how the moderation affects the ex-

ante effect on financial performance was management of long term liabilities as represented by the long term liabilities turnover ratio. The findings in table 4.37 are used to test the hypothesis that financial reporting lag ratio have no moderating influence on the effect of long term liabilities turnover on return on assets of manufacturing companies in the building and construction sector in Kenya. The output reveals a coefficient of the term liabilities turnover moderating variable (mTLT) of -0.1947. The output t-value for this coefficient is -3.8550. This output t is greater than the 1.9712, which is the critical value of 220 firm year observations at 95% confidence interval and 212 degrees of freedom. Since this is higher than the critical value, the null hypothesis is rejected and it is concluded that financial reporting lag ratio has a positive influence on the effect of long term liabilities management on financial performance of manufacturing companies in the building and construction sector in Kenya. This rejection of the null hypothesis can be confirmed by the p-value at 0.05 level of significance which is 0.00016. Being less than 0.05 makes the values to fall in the rejection region of the student t-distribution.

The implication of this is that in the context of a poor financial reporting regime as characterized by long financial reporting lag periods, companies are better off having a low value of long term liabilities turnover. This is consistent with what Seru and Sufi (2021) asserts that long term liabilities are less risky but very costly to business organisations because unlike current liabilities, they involve a high level of interest rate. In addition, low turnover of long term liabilities indicate that there is an effective use of long term liabilities in financing the business. IN Seru and Sufi (2021), it is suggested that long payment periods of liabilities are extremely beneficial since it allows external finance to be instrumental in business operations. The low turnover implies a high percentage of long term liabilities in the financing of business operations and therefore a greater benefit from the interest tax shield given that long term debt interest is a tax allowable expense. The impact of high tax shields is to essentially improve financial performance of a firm through increased profitability.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This study sought to establish how the management of assets and liabilities by manufacturing companies in the building and construction sector in Kenya affected their financial performance. It also sought to find out the moderating effect of quality of financial reporting as indicated by the financial reporting lag ratio. Analysis was done at five levels which were the descriptive level to determine the nature of the independent, dependent and moderating variables; the bivariate inferential analysis level to check the univariate effect of each of the independent variables on financial performance; the moderated bivariate level in which the univariate moderated influence of the quality of financial reporting was established; the multivariate level in which the joint effect of all the four independent variables on financial management was established and finally the multivariate moderated level in which the joint moderated effect of the quality of financial reporting on how the management of assets and liabilities affects financial performance was evaluated.

This chapter summarizes the findings from these four levels of analysis with respect to all the variables being current asset management, current liability management, fixed assets management, financial reporting lag period and financial performance. It also provides the conclusions arrived at after testing the various hypotheses presented in chapter one and their implications. These implications are evaluated by providing recommendations. The recommendations are not only provided for policy issues, but are also given for further research given the theoretical, empirical and conceptual limitations encountered in the course of this research. All these are outlined in the sections the follow below.

The findings of financial performance of manufacturing firms in the building and construction sector in Kenya in this study expands the literature of financial management decisions in general (particularly with respect to management of assets, management of liabilities and the quality of financial reporting) and especially on financial performance of manufacturing firms in the building and construction sector in Kenya.

The academic players are likely to benefit conceptually, theoretically, empirically and methodologically. From a conceptual perspective, the moderating effect of quality of financial reporting on the influence of asset and liability management comes out explicitly. This adds onto the growing body of knowledge that shows the direct relationship between financial management of assets and liabilities and financial performance of a varied range of business industries.

5.2 Summary

The research sought to establish the effect of assets and liabilities management on the financial performance of the manufacturing companies in the building and construction sector in Kenya. The research was a census study based on the companies listed by KAM under the building and construction sector. Out of the 56 manufacturing companies in the sector, 44 of these firms met the criteria of availability of data and 31st December reporting date which formed 220 firm year observations. The null hypotheses were that the management of current assets, current liabilities, fixed assets and long term liabilities all had no separate or joint significant influence on financial performance of the companies. It was further null hypothesized that the quality of financial reporting as indicated by the financial reporting lag ratio had no separate or joint moderating influence on the established relationship between the management of assets and liabilities on the financial performance of these companies. The findings from the hypotheses tests as well as the descriptive statistics are provided in the subsections that follow below.

5.2.1 Summary of the Attributes of Assets Management

Two categories of assets and their management were considered in this study. These were the current assets and the fixed assets. Assets are those economic resources controlled by a business as a result of past events and transactions and from which future benefits are expected (Oluoch, 2014). They are termed as current assets when the future benefits are realizable within a short period of time not exceeding one financial year. When the benefits are to be realized over a long time over one financial period, they are called non-current assets or fixed assets.

The management of assets was measured in two ways. With respect to the current assets, the management of current assets was based on the structure of the assets and measured using the current asset structure (CAS). Current asset structure was taken as the ratio of current asset to the total assets of the business. This ratio reflected the asset management attitude of the firms given that a high proportion of current assets would reflect low expected returns and vice versa and this is a clear indicator of the planning, organizing, directing and controlling associated with the current assets and by extension the non-current assets.

The second way of measuring the management of assets related to the non-current assets. To avoid the problem of multicollinearity, management of noncurrent assets which mostly comprise plant, property and equipment did not use asset tangibility (fixed assets as a proportion of total assets) but instead focused on the efficiency and effectiveness with which those assets are utilized to generate sales. To this extent, fixed assets turnover (FAT) ratio was utilized with the assumption that high turnover ratios reflect a high degree of effectiveness and efficiency of using plant, property and equipment in generating income and vice versa for low turnover ratios.

Once these aspects of assets were established, the attributes of the indicators of management of current assets and non-current assets were established using the descriptive statistics not only for all the companies but also across the industry and over

the time series trend of 5 years covering 2016 to 2020. This applied to both the measures of central tendency and the measures of dispersion.

With respect to the management of current assets, its indicator of current asset structure (CAS) showed that on average 35.94% of the industry assets were invested in current assets although there was a wide disparity with some companies having as high as 60% of their assets being in current form while others had this being as low as 28.5%. On the overall however, there was an a high level of stability across the industry and over time as to the current assets maintained on the balance sheets of manufacturing companies in the building and construction sector in Kenya. COVID-19 seems to have destabilized the current asset structure for the year 2020. With respect to the overall industry and on the basis of the size of the study firms, there were significant variations in the means and variances of the current asset structure among the manufacturing companies in the building and construction sector in Kenya.

With respect to the management of fixed assets, its indicator of fixed assets turnover (FAT) showed that on average 0.3298 times of the industry assets were translated into sales revenue although there was a moderate disparity with some companies having as high as 0.5307 times of their non-current assets being in translated into sales revenue to as low as 0.3509 times being done the same. Accordingly, the low turnover times indicate a very heavy investment in non-current assets by the companies in the building and construction sector in Kenya. On the overall, there was heavy investment in fixed assets given that manufacturing firms rely on plant, property and equipment to carry out the production and conversion process from raw inputs to useful output. In addition, a very high level of volatility over time and across companies exhibit the efficiency and effectiveness with which fixed assets are used to generate sales in this sector. When comparison was made between large and small companies in the sector, there were revealed significant variations in the means and variances of the fixed assets turnover indicating varying policies with respect to the management of fixed assets among the various manufacturing companies in the building and construction sector in Kenya.

5.2.2 Summary of the Attributes of Liability Management

Two categories of liabilities and their management were considered in this study. These were the current liabilities and the long term liabilities. Liabilities are those financial obligations of a business arising from past events and transactions the settlement of which in the future would lead to outflow of financial resources from a business (Oluoch, 2014). They are termed as current liabilities when the financial obligation settlement horizon is within a short period of time not exceeding one financial year. When the settlement horizon is over an elongated time period that exceeds one financial period, they are called long term liabilities.

The management of liabilities was measured in two ways. With respect to the current liabilities, the management of current liabilities was based on the structure of the liabilities and measured using the current liability structure (CLS). Current liability structure was taken as the ratio of current liabilities to the total liabilities of the business. This ratio reflected the liability management attitude of the firms given that a high proportion of current liabilities would reflect a high level of risk appetite given that they need to be settled on short notice to avoid the threat of default and therefore financial distress and insolvency. It simultaneously reflects the need for profit maximization given that these category of liabilities are largely low cost or cost free and thereby their use reduces business financing expenses.

The second way of measuring the management of liabilities related to the long term liabilities. To avoid the problem of multicollinearity, management of long term liabilities which mostly comprise long term loans, notes, debentures and bonds did not use long term liability structure (proportion of long term liabilities in the total liabilities of a firm) but instead focused on the efficiency and effectiveness with which those liabilities are utilized to generate sales. To this extent, long term liabilities turnover (TLT) ratio was utilized with the assumption that high turnover ratios reflect a high degree of effectiveness and efficiency of using long term liabilities in generating income and vice versa for low turnover ratios.

Once these aspects of assets were established, the attributes of the indicators of management of current liabilities and long term liabilities were established using the descriptive statistics not only for all the 44 companies but also across the industry and over the time series trend of 5 years covering 2016 to 2020. This applied to both the measures of central tendency and the measures of dispersion.

With respect to the management of current liabilities, its indicator of current liability structure (CLS) showed that on average 10.69 of the industry liabilities were derived from current liabilities although there was a wide disparity with some companies having as high as 60% of their assets being in current form while others had this being as low as 28.5%. On the overall (an indicator of a risk averse industry shy of using current liabilities to finance assets and operations). The building and construction industry is more dependent on long term liabilities than current liabilities in financing assets and operations. Just like for the case of the management of current assets, it seems that the adverse economic effects of the COVID-19 pandemic were also felt with respect to the ability of the companies to use current liabilities in their liability structure given that there was a fall in the CLS for the year 2020 when the scourge emerged in Kenya. With respect to the overall industry and on the basis of the size of the study firms, there were significant variations in the means and variances of the current liability structure among the manufacturing companies in the building and construction sector in Kenya pointing towards varying current liability management policies.

With respect to the management of long term liabilities, its indicator of long term liabilities turnover (TLT) showed that on average 1.4628 times of the industry long term liabilities were translated into sales revenue although there was a wide disparity with some companies having as high as 2.346 times of their long term liabilities being in translated into sales revenue to as low as 0.8615 times being done the same. Accordingly, the high turnover times indicate a very low usage of long term liabilities by the manufacturing companies in the building and construction sector in Kenya. On the overall, there was low usage of long term liabilities given that manufacturing firms seems to rely less on long term liabilities to finance their operations When comparison

was made between large and small companies in the sector, there were revealed significant variations in the means and variances of the long term liabilities turnover indicating varying policies with respect to the management of long term liabilities among the various manufacturing companies in the building and construction sector in Kenya.

5.2.3 Summary of the Attributes of Quality of financial reporting

Quality of financial reporting relate to attributes of financial information that make it useful to the various stakeholders. One of this attribute is timeliness of financial reporting on which financial reporting lag is derived. High quality reporting should involve very short financial reporting lags. In this study, financial reporting lag was measured in two ways. Firstly was the raw number of days between the end of the financial period and the day the financial reports were released. The average lag in days was around two months which indicated that the quality of reporting in the industry is quite high because the lag period is below the regulatory period of three months for companies quoted at the Nairobi Securities Exchange. The short financial reporting lags in the industry could be attributed to size because the 44 companies represented the largest 44 manufacturing companies in the building and construction sector in Kenya. Large companies have economies of scope and accounting manpower which help in fast tracking financial reporting.

The second approach to measuring the quality of financial reporting in this study was the financial reporting lag ratio. This was specified as the ratio of the number of financial reporting lag days to the total number of years in a financial period. It was essentially a scaled raw financial reporting lag using the financial period as the scaling factor. The spread in the number of days and the ratio indicated a relatively high level of volatility pointing to the fact that the accounting policies vary from company to company as well as the variations in the corporate governance attributes of these firms. IT may seem that COVID pandemic also impacted financial reporting timeliness since it reduced in 2020 having shown an increasing trend from 2016 to 2019.

5.2.4 Summary of the Attributes of Financial Performance

Financial performance is the measure of how well a firm has used resources at its disposal to generate returns to the business owners. Financial performance can be seen from the income point of view in which case margin ratios like gross profit margin and net profit margin are used. It can also be seen from the balance sheet point of view. From literature, the most common approach of measuring financial performance is the balance sheet approach in which profit is gauged against financial resources of a business thereby providing return ratios. The common return ratios used are return on assets (ROA) and return on equity (ROE). The measure of performance used in this study is return on equity. Return on assets was avoided because two of the independent variables (current asset structure and fixed assets turnover) had an element of assets and therefore using a return on assets measure as the dependent variable would have led to the problem of multicollinearity.

The findings from the study showed a relatively poor or modest level of financial performance as indicated by ROE. The mean performance was 11.97% ranging from loss making performances of -13.58% to high levels of 17.43%. further evaluation revealed relatively distinct levels of financial performance from a cross sectional point of view for all the 44 companies as well as from a time series point of view for all the five years used in the study. Like other metrics of analysis in the study, financial performance for the industry seems to have been adversely affected by the COVID 19 pandemic given that the worst financial performance was recorded in 2020 when Kenya experienced lockdowns arising from the effect of the pandemic.

5.2.5 Relating Attributes of Assets and Liability Management to Financial Performance

The study involved evaluating the effect of management of assets to financial performance. The management of assets was measured using the current asset structure, the current liability structure, fixed assets turnover and long term liabilities turnover for

the management of current assets, current liabilities, fixed assets and long term liabilities respectively. The analysis was done at two levels, being the univariate level and the multivariate level. In the univariate level, individual independent variables are related to financial performance while at the multivariate level, the joint effect of all the independent variables were related to the financial performance.

Starting with bivariate analyses, four hypotheses were specified. The first one was that current asset management as specified by the current asset structure has no significant effect on financial performance (as indicated by ROE) of manufacturing companies in the building and construction sector in Kenya. The null hypothesis was rejected and it was found out that there is a negative relationship between financial performance and management of assets that are short term in nature. This was in agreement with the trade-off theory of liquidity such that holding a large amount of liquid assets in the company compromises on profits since they are largely non-return generating assets.

The second bivariate null hypothesis was that current liability management as specified by the current liability structure has no significant effect on financial performance (as indicated by ROE) of manufacturing companies in the building and construction sector in Kenya. The null hypothesis was again rejected and it was found out that there is a positive relationship between financial performance and management of liabilities that are short term in nature. This again was in agreement with the trade-off theory of liquidity such that holding a large amount of current liabilities helps reduce the cost of financing since these liabilities are largely low cost or cost free and the cost savings translate to high profits such that the higher the current liability structure, the higher the return on assets and vice versa.

The third bivariate null hypothesis specified for the study was that fixed assets management as indicated by fixed assets turnover had no significant influence on financial performance of manufacturing companies in the building and construction sector in Kenya. Fixed assets turnover indicated the efficiency and effectiveness with which non-current assets were utilized in generating sales income for the companies.

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The null hypothesis was rejected as it was found out that the management of non-current assets has a positive influence on the financial performance of the study companies. This was attributed to the fact that fixed assets are the productive assets of a firm especially manufacturing ones that require plant, property and equipment to transform raw inputs into final building and construction products.

The final bivariate null hypothesis specified for the study was that long term liabilities management as indicated by long term liabilities turnover ratio had no significant influence on financial performance of manufacturing companies in the building and construction sector in Kenya. Long term liabilities turnover indicated the efficiency and effectiveness with which long term liabilities were utilized in generating sales income for the companies. The study failed to reject the null hypothesis and affirmed that the management of long term liabilities had no influence on influence on the financial performance of the study companies. This was attributed to the fact the industry had very small application and use of long term liabilities and that its risk attitude meant that they relied more on current liabilities and equity to finance their operations thereby making long term liabilities largely of no consequence on financial performance.

Aside from the four bivariate hypotheses, there was a fifth one aimed at testing the association between financial reporting lag and financial performance. The null hypothesis is this respect was that financial reporting lag as represented by the reporting lag ratio (RLR) had no significant effect on financial performance of manufacturing companies in the building and construction sector in Kenya. Financial reporting lag was used to show the quality of financial reporting through indicating the timeliness with which financial reports are released after the end of the financial year with the expectation that short lags indicate high quality financial information that is timely for financial decision making. The null hypothesis was rejected with the finding that there was a negative effect of the financial reporting lag on financial performance and that the longer the reporting lag, the poorer the financial performance and vice versa.

At the multivariate level of analysis, a panel regression was undertaken to regress financial performance on the combined independent variables of current asset structure, current liability structure, fixed asset turnover and long term liabilities turnover. The first null hypothesis in this multiple regression setup was that current asset structure in a combined set-up alongside current liability structure, fixed assets turnover and long term liabilities turnover, had no significant influence on financial performance of manufacturing companies in the building and construction sector in Kenya. The null hypothesis was rejected and just like for the bivariate case, it was found out that current asset structure has a negative effect on financial performance of the study companies and that the large the proportion of current assets in the total asset structure, the poorer the financial performance and vice versa.

The second null hypothesis in the multiple regression setup was that current liability structure in a combined set-up alongside current asset structure, fixed assets turnover and long term liabilities turnover, had no significant influence on financial performance of manufacturing companies in the building and construction sector in Kenya. The null hypothesis was rejected and just like for the bivariate case, it was found out that current liability structure has a positive effect on financial performance of the study companies and that the large the proportion of current assets in the total asset structure, the better the financial performance and vice versa.

The third null hypothesis was that fixed assets turnover which was used to indicate the efficiency and effectiveness of managing non-current assets to generate income, had no significant influence on financial performance of manufacturing companies in the building and construction sector in Kenya, when evaluated jointly alongside current asset structure, current liability structure and long term liabilities turnover. The null hypothesis was rejected and similar to the bivariate case, it was found out that fixed assets turnover (management of non-current assets) had a positive effect on financial performance of the study companies and that the higher the number of times fixed assets are translated into sales, the better the financial performance and vice versa.

The final null hypothesis was that long term liabilities turnover which was used to indicate the efficiency and effectiveness of managing long term liabilities to generate income, had no significant influence on financial performance of manufacturing companies in the building and construction sector in Kenya, when evaluated jointly alongside current asset structure, current liability structure and fixed assets turnover. The null hypothesis was rejected and unlike the bivariate case where there was discernible effect, in this multivariate case, it was found out that long term liabilities turnover (management of long term liabilities) had a positive effect on financial performance of the study companies and that the higher the number of times long term liabilities are translated into sales, the better the financial performance and vice versa. Combing management of long term with those of current assets, current liabilities and non-current assets helps to boost financial performance.

5.2.6 The Moderating Influence of Quality of financial reporting

The study also carried out an analysis to find out if the quality of financial reporting as indicated by the financial reporting lag ratio had any significant moderating influence of the established effect of management of assets and liabilities on financial performance of manufacturing companies in the building and construction sector in Kenya. Two levels of analysis were done at this stage. This was firstly the bivariate moderation analysis for each of the four relationships of the independent variables with financial performance. Secondly, the joint moderation effect for all the four variables in a multivariate analysis was done.

With respect to bivariate moderated analysis, the first hypothesis studied was that the quality of financial reporting as indicated by the financial reporting lag ratio had no significant moderating influence on the effect of current asset management on financial performance of manufacturing companies in the building and construction sector in Kenya. The established direct relationship had been that current asset structure negatively affected financial performance of these companies. The null hypothesis was rejected and it was established that financial reporting lag ratio had a negative

moderating influence on the effect of current asset structure on return on equity of the study companies. That lengthening the financial reporting lag period worsens the influence of current asset structure on financial performance of the study companies and that they are better off with very timely financial reports based on very short financial reporting lag periods.

The second hypothesis studied with respect to bivariate moderation was that the quality of financial reporting as indicated by the financial reporting lag ratio had no significant moderating influence on the effect of current liability management on financial performance of manufacturing companies in the building and construction sector in Kenya. The established direct relationship had been that current liability structure positively affected financial performance of these companies. The null hypothesis was not rejected and it was affirmed that financial reporting lag ratio had a zero moderating influence on the effect of current liability structure on return on equity of the study companies. That lengthening the financial reporting lag period has no effect whatsoever on the influence of current liability structure on financial performance of the study companies.

The third moderated bivariate null hypothesization was that the effect of the management of fixed assets as indicated by fixed assets turnover on financial performance of manufacturing companies in the building and construction sector in Kenya was not significantly moderated by the quality of financial reporting as indicated by the financial reporting lag ratio. The ex-ante established direct relationship between fixed assets management and financial performance had been that fixed assets turnover had a positive effect on financial performance of the study companies. When the moderation influence is considered, the null hypothesis is rejected and it is established that quality of financial reporting had a positive moderating influence on the effect of fixed assets turnover on financial performance. That in the context of poor quality of financial information as indicated by lengthy financial reporting lag period, the manufacturing companies had better off have high fixed turnover periods to counteract the negative impact of poor quality information.

The final moderated bivariate null hypothesization was that the effect of the management of long term liabilities as indicated by long term liabilities turnover on financial performance of manufacturing companies in the building and construction sector in Kenya was not significantly moderated by the quality of financial reporting as indicated by the financial reporting lag ratio. The ex-ante established direct relationship between long term liabilities management and financial performance had been that long term liabilities turnover had no significant effect on financial performance of the study companies. When the moderation influence is considered, the null hypothesis is rejected and it is established that quality of financial reporting had a negative moderating influence on the effect of long term liabilities turnover on financial performance. That in the context of poor quality of financial information as indicated by lengthy financial reporting lag period, the manufacturing companies had better off have low long term liabilities turnover periods to save of the costs of long term financing that are associated with long term liabilities.

The final set of inferential analysis revolved around establishing if quality of financial reporting as exemplified by the financial reporting lag ratio had any significant moderating effect when all the study variables were considered in a multivariate regression setup. The first null hypothesis in this case was that the quality of financial reporting (as indicated by the financial reporting lag ratio) had no significant moderation effect on the effect of current asset structure on return on equity of manufacturing companies in the building and construction industry when that effect is established in a joint case alongside current liability structure, fixed assets turnover and long term liabilities turnover. The ex-ante established relationship had been that when considered jointly alongside management of current liabilities, fixed assets and long term liabilities, current asset structure had a negative effect on financial performance of the companies. In the moderation case, the null hypothesis was rejected and the results showed that financial reporting lag ratio had a negative moderating influence on the effect of current asset management on financial performance in a joint setting alongside the management

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of current liabilities, fixed assets and long term liabilities. That in a poor financial reporting setting, companies are advised to reduce the investment in current assets.

The second null hypothesis in the multivariate joint moderation case was that the quality of financial reporting (as indicated by the financial reporting lag ratio) had no significant moderation effect on the effect of current liability structure on return on equity of manufacturing companies in the building and construction industry when that effect is established in a joint case alongside current asset structure, fixed assets turnover and long term liabilities turnover. The ex-ante established relationship had been that when considered jointly alongside management of current assets, fixed assets and long term liabilities, current liability structure had a positive effect on financial performance of the companies. In the moderation case, the null hypothesis was rejected and the results showed that financial reporting lag ratio had a positive moderating influence on the effect of current liability management on financial performance in a joint setting alongside the management of current assets, fixed assets and long term liabilities. That in a poor financial reporting setting, companies are advised to increase the usage of current liabilities to save on financing costs and thereby boost financial performance.

The penultimate hypothesis in the context of the multivariate analysis was that the effect of non-current assets management (as indicated by fixed assets turnover) was not significantly moderated by the quality of financial reporting (as indicated by the financial reporting lag ratio) in the context of a multivariate set up along-side the management of current assets (via current asset structure), the management of current liabilities (via the current liability structure) and the management of long term liabilities (via the long term liabilities turnover ratio). It had earlier in the study been established that when considered alongside CAS, CLS and TLT, fixed assets turnover had a positive effect on financial performance of manufacturing companies in the building and construction sector in Kenya in a multivariate relationship alongside current asset, current liability and long term liability management. Once the moderation is considered, the null hypothesis is rejected and it is observed that financial reporting lag ratio has a

positive moderation influence on the effect of fixed assets turnover on return on equity of manufacturing companies in the building and construction sector in Kenya.

The ultimate hypothesis in the context of the multivariate analysis was that the effect of long term liabilities management (as indicated by long term assets turnover) was not significantly moderated by the quality of financial reporting (as indicated by the financial reporting lag ratio) in the context of a multivariate set up along-side the management of current assets (via current asset structure), the management of current liabilities (via the current liability structure) and the management of fixed assets (via the fixed assets turnover ratio). It had earlier in the study been established that when considered alongside CAS, CLS and FAT, long term liabilities turnover had a positive effect on financial performance of manufacturing companies in the building and construction sector in Kenya in a multivariate relationship alongside current asset, current liability and fixed assets management. Once the moderation is considered, the null hypothesis is rejected and it is observed that financial reporting lag ratio has a negative moderation influence on the effect of long term liabilities turnover on return on equity of manufacturing companies in the building and construction sector in Kenya. That in the context of a poor financial reporting environment, it is best to reduce reliance on non-current assets to finance business assets and operations.

5.3 Conclusion

This study was carried out over a five year period of 2016 to 2020 and was based on panel data analysis to establish how management of assets and liabilities affects financial performance of manufacturing firms in the building and construction industry in Kenya. It also aimed to show how this relationship is moderated by the quality of financial reporting as indicated by the financial reporting lag ratio. The analysis was done both at the bivariate level and multivariate level both for the direct relationship and the moderated relationship. In this section are presented the conclusions arrived at after carrying out both descriptive analysis and inferential analysis by testing the hypotheses

presented in chapter 1, where the testing was based on the t-statistic at 95% confidence interval and the p-value at the 0.05 level of significance.

5.3.1 The Management of Current Assets in the Building and Construction Sector

The management of current assets was indicated by the levels of current assets held in the entire asset structures of the study companies. It was therefore based on the ratio of current assets to total assets which was referred to as the current asset structure. The analysis of the descriptive findings with respect to the management of current assets leads to the conclusion that the manufacturing companies in the building and construction sector have a significant investment in current assets though not as much as the amount that is invested in non-current assets. Further, a conclusion was arrived at that there is a wide variation in the policy of the companies with respect to management of current assets given that there was reported a wide variation in the current asset structures of the companies across companies and over time with some companies reporting as high as 60% of their assets being in current asset form. The significant investment in current assets but often lower than the non-current assets is dictated by the nature of the industry which requires heavy investment in plant, property and equipment to facilitate the production process.

5.3.2 The Management of Current Liabilities in the Building and Construction Sector

The management of current liabilities was indicated by the levels of current liabilities held in the entire liability structures of the study companies. It was therefore based on the ratio of current liabilities to total liabilities which was referred to as the current liability structure. The analysis of the descriptive findings with respect to the management of current liabilities leads to the conclusion that the manufacturing companies in the building and construction sector do not have a heavy reliance on current liabilities in financing assets and operations and that they hardly use have current liabilities going beyond 11% of their total liabilities.

Further, a conclusion was arrived at that there is a moderate variation in the policy of the companies with respect to management of current liabilities given that there was reported a moderate variation in the current liability structures of the companies across companies ranging from 6.9% to 16% of their liabilities being in short term form. The significant investment in current assets but often lower than the non-current assets is dictated by the nature of the industry which requires heavy investment in plant, property and equipment to facilitate the production process. Based on the trade-off theory of Gitman (1974), it is concluded that the risk appetite of firms in this sector is generally very low given that the average proportion of current liabilities to total liabilities is very low with the implication that most liabilities are derived from long term liabilities when are relatively safe yet very costly. It may also be that the levels of risk aversion in the industry are driven by the agency conflicts which prevent managers from taking on more than enough risk in their bid to safeguard their private interests at the expense of better financial performance as was theorized by Jensen and Meckling (1976).

5.3.3 The Management of Fixed Assets in the Building and Construction Sector

The management of noncurrent assets, also called fixed assets, was evaluated on the basis of the efficiency and effectiveness with which those assets were used in generating sales income. Accordingly fixed assets turnover (FAT) was used to show this efficiency and effectiveness with the assumption that the higher the turnover, the greater the effectiveness and efficiency of using the non-current assets to generate sales. The descriptive analysis of the FAT showed that the value was very low an indicator that the industry had a very heavy investment in non-current assets. This is expected from such an industry because being manufacturing in nature, heavy investment in plant, machinery and equipment is required in order to facilitate the production process. The conclusion is consistent with that arrived at with respect to management of current assets that revealed a considerable investment in current assets but relatively lower than that made in the fixed assets.

In addition to the conclusion above, it is further concluded that there is a wide variation in the policy of managing non-current assets across the industry given the relatively high value of coefficient of variation arrived at from the analysis. The conclusion is that the policies not only vary across the various firm sizes in the industry but over time as well. This is mostly likely as a result of the variations in risk attitude among the various companies as well as the variations in long term asset contract provisions given that some of the fixed assets are subject to lease contracts.

5.3.4 The Management of Term Liabilities in the Building and Construction Sector

The management of long term liabilities, was evaluated on the basis of the efficiency and effectiveness with which those liabilities were used in generating sales income. Accordingly, long term liabilities turnover (TLT) was used to show this efficiency and effectiveness with the assumption that the higher the turnover, the greater the effectiveness and efficiency of using the long term liabilities to generate sales. The descriptive analysis of the TLT showed that the value was very high relative to that exhibited by the fixed assets turnover. This leads to the conclusion that the value of long term liabilities is relatively lower than the value of fixed assets in the industry. It is therefore concluded that a significant portion of fixed assets is financed by current liabilities and possibly other non-finance sources of finance especially because the current liability structure had indicated the contradictory findings. In this case, the manufacturing firms in this industry seem to be relying on non-liability finance sources particularly ordinary equity.

In addition to the conclusion above, it is further concluded that there is a moderate variation in the policy of managing long term liabilities across the industry given the relatively moderate value of coefficient of variation arrived at from the analysis. The conclusion is that the policies do not significantly vary across the various firm sizes in the industry and over time as well. This again leads to the conclusion that the companies in this sector are shy from using long term liabilities and current liabilities in financing their operations.

5.3.5 The Quality of Financial Reporting in the Building and Construction Sector

In this study, quality of financial reporting was evaluated as a moderating influence on the relationship between the management of assets and liabilities on one hand and financial performance on the other. The aspect of quality of financial reporting pursued in this study was relevance of the reported financial information with the expectation that relevant financial information must have a bearing on managerial financial decisions that ultimately affect the financial performance of the firms. Timeliness is a quality of relevance and was pursued in this study through the use of the financial reporting lag as an indicator of the time that lapses between the end of the financial period and the time the financial reports are released by the companies in the industry.

It is concluded that the quality of reporting as indicated by financial reporting lag is very high in the industry and that financial statements are released on a relatively timely fashion relative to the regulatory expectations and other reporting regimes. It is further concluded that the financial reporting policies of the firms vary significantly across the size ranges with smaller firms having a little longer financial reporting lags when compared to their larger counterparts. It is therefore concluded that firm size is a determinant of the timeliness of financial reporting with the outcome that large firms have short financial reporting lags and vice versa. The companies are likely to shorten their financial reporting lags following growth in size.

5.3.6 Financial Performance of Companies in the Building and Construction Sector

The dependent variable used in this study was return on equity. This is a balance sheet oriented indicator of financial performance that relates the profits generated in a given period to the shareholders equity available in that period. Logically, the higher the ROE, the better the financial performance and vice versa. Analysis of the descriptive statistics of ROE leads to the conclusion that the manufacturing companies in the building and construction industry are characterized by a relatively low level of profitability and financial performance. It could be because the companies experience a high cost of

operations and their risk attitude has seen overreliance of long term debt and other high cost non-liability sources of finance. The implied situation is that either the companies in this sector are inefficient in their production processes or that the cost of manufacturing in Kenya is comparatively very high. Further conclusion arrived at from size and industry evaluation reveals that financial performance is wide and varied across the industry and also across the various company sizes. This implies that financial performance is dependent not only on business size but the unique idiosyncratic circumstances of each and every business.

5.3.7 Effect of Current Asset Management on Financial Performance

The effect of current assets management on financial performance was evaluated at the bivariate and then at the multivariate levels. It is concluded that current asset management when considered in isolation has a negative influence on the financial performance of manufacturing companies in the building and construction sector in Kenya. It is further concluded that when evaluated in a joint situation alongside the management of current liabilities, fixed assets and long term liabilities, again the management of current assets as indicated by the current asset structure has a negative effect on financial performance of the companies in this sector. Companies in the sector are well advised to check the optimal level of current assets in the total assets structure so as not to be exposed to loss making situations given that current assets impose opportunity cost of lost income since they are largely non-return generating assets.

5.3.8 Effect of Current Liability Management on Financial Performance

The effect of current liability management on financial performance was evaluated at the bivariate and then at the multivariate levels. It is concluded that current liability management when considered in isolation has a positive influence on the financial performance of manufacturing companies in the building and construction sector in Kenya. It is further concluded that when evaluated in a joint situation alongside the management of current assets, fixed assets and long term liabilities, again the

management of current liabilities as indicated by the current liability structure has a positive effect on financial performance of the companies in this sector. Companies in the sector are well advised exploit the use of current liabilities in financing assets and operations that an aggressive approach to asset financing will well serve them subject to their appetite and attitude towards risk given that current liabilities whilst cheap and sometimes cost free, come with an enhanced level of risk.

5.3.8 Effect of Fixed Asset Management on Financial Performance

Fixed assets are the productive financial resources of business organizations. Manufacturing firms invest in plant, property and equipment to exploit them in the conversion process from raw inputs into finished output. The evaluation of the management of fixed assets in this study was done on the basis of fixed assets turnover. Its association with financial performance was evaluated first at in isolation at the bivariate level and then in a joint fashion alongside the management of current assets, current liabilities and long term liabilities. It is therefore concluded that management of fixed assets has a separable positive effect on the financial performance of business entities in the building and construction sector in Kenya and that the higher the fixed assets turnover, the better their returns on equity and vice versa. It is further concluded that from a multivariate perspective, the management of fixed assets has a joint positive effect on the financial performance of business entities in the building and construction sector in Kenya when analyzed alongside the joint management of current assets, current liabilities and long term liabilities and that the higher the fixed assets turnover, the better their returns on equity and vice versa.

5.3.9 Effect of Term Liabilities Management on Financial Performance

The last relationship that was evaluated was the influence of the management of long term liabilities on financial performance of manufacturing firms in the building and construction sector in Kenya. Noncurrent liabilities provide long term finances for financing business assets and operations and usually come at a higher cost than current

liabilities albeit at a diminished level of financial risk. The evaluation of the management of long term liabilities in this study was done on the basis of long term liabilities turnover. Its association with financial performance was evaluated first at in isolation at the bivariate level and then in a joint fashion alongside the management of current assets, current liabilities and non-current assets. It is therefore concluded that management of long term liabilities has a separable zero effect on the financial performance of business entities in the building and construction sector in Kenya and that the level of usage of long term liabilities does not have any significant influence on the financial performance of companies in this building and construction sector. It is further concluded that from a multivariate perspective, the management of long term liabilities has a joint positive effect on the financial performance of business entities in the building and construction sector in Kenya when analyzed alongside the joint management of current assets, current liabilities and fixed assets and that the higher the long term liabilities turnover, the better their returns on equity and vice versa.

5.3.10 The Moderating Influence of the Quality of Financial Reporting

After establishing the separable univariate and the joint multivariate influence of management of assets and liabilities on financial performance of companies in the building and construction sector in Kenya, the final analysis is this study focused on the moderating role of the quality of financial reporting on those two levels of interrelationships. Quality of financial reporting was indicated by the timeliness of financial reporting as indicated by the financial reporting lag. Eight conclusions are arrived at from the analysis.

Firstly, it is concluded that financial reporting lag as indicated by the financial reporting lag ratio has a significant negative moderating influence on the bivariate effect of current asset management on financial performance of manufacturing firms in the building and construction sector in Kenya. That in the context of a poor quality of financial reporting environments characterized by long financial reporting lags, then companies in this

sector will be better off in terms of financial performance if they reduce investment in current assets so as to lower down their current asset structures.

When then same is looked at in a multivariate set-up where the moderating influence of quality of financial reporting is judged alongside the joint management of current liabilities, fixed assets and long term liabilities, the same conclusion is arrived at that financial reporting lag ratio has a significant negative moderating influence on the multivariate effect of current asset management on financial performance of manufacturing firms in the building and construction sector in Kenya. Again in this instance and in the context of a poor quality of financial reporting environments characterized by long financial reporting lags, then companies in this sector will be better off in terms of financial performance if they reduce investment in current assets so as to lower down their current asset structures.

Thirdly, it is concluded that financial reporting lag as indicated by the financial reporting lag ratio has a no moderating influence on the bivariate effect of current liability management on financial performance of manufacturing firms in the building and construction sector in Kenya. That in the context of a poor quality of financial reporting environments characterized by long financial reporting lags, then companies in this sector are unlikely to change their financial performance based on return on equity by varying the current liability structure.

The fourth conclusion arrived at in the context of the moderating influence of the timeliness of financial reporting relates to the moderation by financial reporting lag ratio on the joint multivariate effect of management of current liabilities on financial performance. The joint moderation is analyzed when management of current liabilities is done alongside that of current assets, fixed assets and long term liabilities. Unlike the bivariate case above, when done in a joint fashion, then financial reporting lag ratio has a significant positive moderating influence on the interrelationship between financial performance and management of current liabilities by manufacturing firms in the building and construction sector in Kenya.

The fifth conclusion in the context of the moderation effect is arrived at by evaluating how financial reporting timeliness influences the ex-ante separable bivariate effect of the management of fixed assets as indicated by fixed assets turnover on financial performance of manufacturing companies in the building and construction sector in Kenya. It is concluded that when managed in isolation, then the quality of financial reporting as indicated by the financial reporting lag ratio has a positive moderating influence on the relationship between fixed assets turnover and financial performance of these companies. Faced with a poor quality of financial reporting, companies in this sector will reduce the negative effects of the poor information by increasing the efficiency and effectiveness of using plant, property and equipment, the productive resources of the business, to generate more sales and thereby boost financial performance.

The sixth conclusion is made still on the moderating effect of quality of financial reporting but now in the context of a joint scenario where the management of fixed assets is being done in a multivariate set-up alongside the management of current assets, current liabilities and long term liabilities. It is concluded that in this kind of a set-up, financial reporting timeliness as indicated by the financial reporting lag ratio still has a significant and positive moderating influence of the effect of fixed assets management on financial performance of the manufacturing companies in the study sector. Faced with a situation of a poor financial reporting environment, companies should increase the turnover of fixed assets by boosting the efficiency and effectiveness with which the non-current assets are utilized to generate sales in order to boost their performance.

The penultimate conclusion in the context of the moderation effect is arrived at by evaluating how financial reporting timeliness influences the ex-ante separable bivariate effect of the management of long term liabilities as indicated by long term liabilities turnover on financial performance of manufacturing companies in the building and construction sector in Kenya. It is concluded that when managed in isolation, then the quality of financial reporting as indicated by the financial reporting lag ratio has no significant moderating influence on the relationship between long term liabilities

turnover and financial performance of these companies. Faced with a poor quality of financial reporting, companies in this sector cannot in anyway influence their financial performance by relying and tampering with the long term liabilities turnover given that the timeliness of financial performance will not affect the ex-ante relationship between financial performance and the management of long term liabilities as indicated by the efficiency and effectiveness of utilizing them to generate sales.

The final conclusion for this study and for this segment of the study is made on the moderating effect of quality of financial reporting in the context of a joint scenario where the management of long term liabilities is being done in a multivariate set-up alongside the management of current assets, current liabilities and fixed assets. It is concluded that in this kind of a set-up, financial reporting timeliness as indicated by the financial reporting lag ratio now has a significant and negative moderating influence of the effect of long term liabilities management on financial performance of the manufacturing companies in the study sector. Faced with a situation of a poor financial reporting environment, companies should increase the reduce turnover given their lower than average risk that firms are exposed to when they rely on current liabilities.

5.4 Recommendations

Having evaluated the effect of asset and liability management on financial performance of companies in the building and construction industry, the findings from descriptive and inferential analysis provide numerous insights on the basis of which several recommendations can be made.

Firstly, from descriptive analysis, it was concluded that the manufacturing companies in the building and construction sector had a high quality of financial reporting characterized by short financial reporting lags. Based on this it is recommended that they maintain their systems of internal controls and corporate governance in order to maintain if not enhance the high quality of financial reporting that has been exhibited. When evaluated from the moderating aspects of quality of financial reporting with respect to

how it moderates the effect of asset and liability management, it was found that it has a significant moderating effect (negative for current assets management and long term liabilities management and positive for current liability management and fixed assets management). It is therefore still recommended that companies take care to have efforts to at the very worst maintain the existing financial reporting lags and even better improve the timeliness of financial reporting. This again can be facilitated by maintaining or enhancing systems of internal control and corporate governance.

Still based on descriptive analysis, the level of financial performance was seen to be ranging from moderate to poor financial performance. Based on this, it is recommended that the companies and the industry put in place measures that are likely to improve revenue while simultaneously boosting the efficiency and effectiveness with which both assets and liabilities are utilized to generate sales. Such measures could include seeking for cheaper sources of production inputs and adopting modern technologies of production that are very effective and efficient. In addition, evaluation of management of liabilities indicated overreliance on non-liability and costly long term liabilities. Restructuring their liability structures could bring down financing and operating costs and thereby boost financial performance.

Thirdly, it was found out that current asset structure negatively influences financial performance of the manufacturing companies in the building and construction sector. It is therefore recommended that in order to boost their financial performance, these companies should reduce the proportion of current assets to an optimal level without having an excess or a deficiency. Excess current assets would increase the opportunity cost of lost income since current assets are largely non-return generating assets. A shortfall in these assets would however impair the operations on a day to day basis given that it is current assets that are utilized in regular operations and meeting the expectations of customers and other stakeholders. Adopting efficient technologies like Just-in-Time (JIT) production and efficient enterprise resource planning (ERP) systems will go a long way in achieving such optimal levels of current assets.

Further, it was found out that management of current assets have a positive effect on financial performance of manufacturing companies in the building and construction sector in Kenya. Based on this, it is recommended that the companies in this sector enhance the reliance on use of current liabilities for financing assets and operations especially because such liabilities are largely cost free and this should boost financial performance. While at it, they need to set their optimal levels given that excessive application of these liabilities increase the risk exposure of businesses. So just like the case of current liabilities, they require to set an optimal level of current liabilities that exploit the cost advantages while avoiding the financial risk involved.

Finally, it was found out that while long term liabilities turnover had a positive influence on financial performance, companies seemed to over rely on non-liability form of finance in their business. To exploit the interest tax shield on the costs of financing long term liabilities, it is recommended that the companies enhance the use of long term debt and other long term liabilities like debentures, mortgages and bonds to improve their financial performance.

5.5 Areas for Further Study

There were a number of limitations on the basis of which recommendations for further studies are made Firstly, the study focused purely on the manufacturing companies in the building and construction sector in Kenya. Accordingly, the findings are specific to this sector and do not include other critical sectors of the economy. It is therefore recommended that a similar study be conducted to cover other sectors of the economy including the commercial sector, the financial sector, the automobile sector, the service sector and potentially the communications and energy sectors.

In addition, the research design of this study is limited to exploratory causal survey. This was necessary in order to use the secondary data collected from financial statements data as indicators of the structures that are used to manage assets. The downside of this is that qualitative aspects of management of assets and liabilities, the quality of financial

reporting and financial performance were excluded from the analysis. A similar study could be conducted to include a qualitative research design or a mixed research design in which the qualitative aspects of analysis will be considered. This could help corroborate or otherwise contrast the findings of this study found from purely quantitative data.

Thirdly, the study was limited to Kenya as a geographical region. This means that the findings are generalizable for the country but may not be done across the border to other countries regionally or internationally. It is therefore recommended that a similar study to evaluate the effect of asset and liability management on financial performance of companies be done to focus on cross-country performance especially for the East Africa region especially because the region enjoys a common market and the findings could help supplement those arrived at in this study.

The measure of performance was limited to accounting based balance sheet measure of performance identified as return on equity. The study therefore excluded a number of other measures of performance including income statement-based margin measures and market based measures like market returns and Tobin's Q. A similar study could be undertaken to establish how assets and liabilities management influences financial performance when looked at from the perspective of these metrics that were not utilized in this study.

Finally, the study was limited in conceptual scope but focusing on one category of asset structure and one indicator of financial performance. A multiple variable situation could bring out other empirical elements not sufficiently catered for in this study. In light of this it is recommended that a similar study be undertaken with a keen analysis of a multiple number of asset structures and even liability structures. This can be expanded to include a wide section of companies besides the largest companies in the building and construction sector.

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APPENDICES

Appendix I: Manufacturing firms in the building and construction sector in Kenya

S/NO	Firm's Name
1	Bamburi Cement Limited
2	Mombasa cement Limited
3	East Africa Portland Cement Company
4	Savanna Cement Limited
5	Athi River Mining Cement company
6	National Cement Company
7	Rai Cement Company
8	Karsan Ramji & Sons Ltd
9	Jumbo Steel Mills
10	Crown Paints
11	Basco Paints
12	Kenya Builders & Concrete Ltd.
13	Solai Paints Ltd
14	Skysail Mabati Limited.
15	Nayan Products (K) Ltd
16	Galaxy Paint and Coating Co. Limited
17	Roofings Kenya Ltd.
18	Apex Steel Ltd
19	Rexe Roofing Products.
20	Orbit Enterprises Limited
21	Space and Style Limited
22	Zenith Steel Fabricators Ltd
23	Accurate Steel Mills Ltd.
24	Devki Steel Mills Ltd
25	Standard Rolling Mills Ltd

26	Danmash fabricators and Engineering Works
27	RAK Ceramics Kenya Ltd
28	Hebatullah BrothersLimited
29	Saj Ceramics Limited
30	Nails and Steel Products Limited
31	Kenya Builders & Concrete Co Ltd
32	Ramoda Ceramics Limited
33	Athiriver Steel Plant Ltd.
34	ASL Limited
35	Ngao Roofing Systems Ltd
36	Super Manufacturers Ltd
37	Tile & Carpet Centre
38	Royal Mabati Factory Ltd
39	Bhuraj Metal Industries Limited
40	Basco products Limited
41	Cemex Holding Limited
42	Mabati Rolling Mills
43	General Industries
44	Ideal Manufacturing Company Limited

Appendix II: Secondary Data Collection Sheet

Company Name:					
	2016	2017	2018	2019	2020
Current Assets (Kshs Thousands)					
Current liabilities(Kshs Thousands)					
Non-Current assets(Kshs Thousands)					
Long term liabilities(Kshs Thousands)					
Sales (Kshs Thousands)					
Total Assets (Kshs Thousands)					
Total Liabilities (Kshs Thousands)					
Audit report Date					