RELATIONSHIP BETWEEN LEAN ACCOUNTING AND FINANCIAL PERFORMANCE OF COMMERCIAL BANKS IN ELDORET TOWN, KENYA

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Abstract:

Everybody working seriously to implement Lean Accounting concept in their company eventually bumps up against their accounting systems. It soon becomes clear that traditional accounting systems are actively anti-lean. Lean accounting refers to the concepts designed to better reflect the financial performance of a company that has implemented lean service processes. These may include organizing costs by value stream, changing inventory valuation techniques and modifying financial statements to include nonfinancial information (Alves, Vieira Neto, de Mattos Nascimento, de Andrade, Tortorella, & Garza-Reyes, 2022). The study sought to establish whether Lean Accounting influences the financial performance of Commercial Banks in Kenya. The study was guided by the Lean Philosophy model. The study used a cross-sectional research design and targeted employees working in all t8 commercial banks in Eldoret town, Kenya. A census of the study population was conducted. Questionnaires were used as data collection instruments. The data was analyzed using both inferential (multiple regression and correlation) and descriptive statistics (frequencies, percentages, mean and standard deviation) and was presented by the use of tables and charts. The study findings indicated that the study variables Lean Accounting $\beta = 0.209$, $p < 0.05$ were significant to financial performance. The results showed that Lean Accounting was a positive and significant predictor of financial performance with ($t = 3.250$; $\varrho < 0.05$). The study recommended that the management of commercial banks in Kenya should strive to maintain the current lean accounting practices and further increase or improve them in order to enhance the banks' value. They should also train staff on the use of Lean Accounting techniques in order to be able to improve their performance.

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Definition of Terms

Muda is a Japanese word meaning "*futility; uselessness; wastefulness*", and is a key concept in lean process thinking (Maskell & Baggaley, 2006).

1. Introduction

Lean Accounting which refers to concepts designed to better reflect the financial performance of a company that has implemented lean service processes. These may include organizing costs by value stream, changing inventory valuation techniques and modifying financial statements to include nonfinancial information (Adeyemi & Fagbemi 2010) a lean enterprise is focused on increased value to the customer, the elimination of wasteful work and non-value-added activities, and increased throughput to create opportunities for profitable growth. Because the focus of lean is on value, lean looks at costing from the value stream, Lean Accounting techniques provide convenient methods for calculating production costs by focusing on value flow rather than on products, and that agile accounting tools support the assessment of the performance of economic units at the cell level and the value flow of the economic unit as a whole (Abass, 2015).

Lacerda, Xambre, and Alvelos, (2016) assert that Lean Accounting can be stated as "*applying lean methods to the accounting processes*." Some accounting processes contain muda type 1 (waste that cannot be eliminated at the moment) but most accounting processes are muda type 2 (waste that can be eliminated). The tools of lean must be rigorously applied to our accounting, control, and measurement processes so that waste is relentlessly driven out. This is achieved in the same way waste reduction is achieved anywhere else, through continuously eliminating waste from the transaction processes, reports, and accounting methods throughout the organization. The tools to achieve this are the value stream maps (current and future state), kaizen (lean continuous improvement), and the venerable Plan-Do-CheckAct (PDCA) problem-solving approach. These improvements can be made early in the transformation to lean and will open up time for the accounting personnel to work on other Lean Accounting changes. Inevitably these early projects improve processes that will later be eliminated, but they make a good start to the introduction of Lean Accounting into the business (Maskell & Baggaley, 2006). Lean accounting reports and methods actively support lean transformation. This information drives continuous improvement. The financial and nonfinancial reporting reflects the overall value stream flow, not individual products, jobs, or processes. Lean Accounting focuses on measuring and understanding the value created for the customers, and uses this information to enhance customer relationships, product design, product pricing, and lean improvement (Psomas, 2021).

While Lean Accounting is still a work-in-process, there is now an agreed body of knowledge that is becoming the standard approach to accounting, control, and measurement. These principles, practices, and tools of Lean Accounting have been implemented in a wide range of companies at various stages on the journey to lean transformation. These methods can be readily adjusted to meet your company's specific needs and they rigorously maintain adherence to GAAP and external reporting requirements and regulations (Amusawi, Almagtome, & Shaker, 2019). Lean Accounting is itself lean, low-waste, and visual, and frees up finance and accounting people's time so they can become actively involved in lean change instead of being merely "*bean counters.*" (Ali, Khan, Shah, & Ahmad, 2021).

According to Maskell and Baggaley (2006), the principles, practices, & tools of Lean Accounting include but are not limited to the following.

Table 1: The principles, practices, & tools of Lean Accounting

Principles	Practices	Tools of Lean Accounting
A. Lean & simple business accounting	Continuously eliminate waste from the transactions processes, reports, and other accounting methods	a) Value stream mapping; current & future state. b) Kaizen (lean continuous improvement). c) PDCA problem solving
B. Accounting processes that support lean transformation	Management control & continuous improvement	a) Performance Measurement Linkage Chart; linking metrics for cell/process, value streams, plant & corporate reporting to the business strategy, target costs, and lean improvement. b) Value stream performance boards containing break-through and continuous improvement projects. c) Box scores showing value stream performance
	Cost management	a) Value stream costing b) Value stream income statements
	Customer & supplier value and cost management	• Target costing
C. Clear & timely communication of information	Financial reporting	a) "Plain English" financial statements b) Simple, largely cash-based accounting
	Visual reporting of financial & non-financial performance measurements	• Primary reporting using visual performance boards; division, plant, value stream, cell/process in production, product design, sales/marketing, administration, etc.
	Decision-making	• Incremental cost & profitability analysis using value stream costing and box scores
D. Planning from a lean perspective	Planning & budgeting	a) Hoshin policy deployment b) Sales, operations, & financial planning (SOFP)
	Impact of lean improvement	a) Value stream cost and capacity analysis b) Current state & future state value stream maps

		c)	Box scores showing operational, financial, and capacity changes from lean improvement. Plan for financial benefit from the lean changes
	Capital planning	•	Incremental impact of capital expenditure on value stream box-score. Often used with 3P approaches
	Invest in people	a) b)	Performance measurements tracking continuous improvement participation, employee satisfaction, & cross-training Profit sharing
E. Strengthen internal accounting control	Internal control based on lean operational controls	a) b)	Transaction elimination matrix Process maps showing controls and SOX risks
	Inventory valuation	a)	Simple methods to value inventory without the requirement for perpetual inventory records and product costs can be used when the inventory is low and under visual control.

2. Literature Review

Lean Accounting is the philosophy of recognizing and eliminating the non value-added activities within the lean production system in order to reduce production costs (Monroy, Nasiri, & Peláez, 2014). The lean thinking approach as a production system has been developed by the Toyota Corporation in 50 sec in order to improve the production processes and reduce costs by eliminating wastes. Lean Accounting is commonly described as a five principles approach that aims to reduce the operating cost by simplification of all production processes and waste removal (Gracanin *et al.*, 2014). In addition, accounting has been developed to help companies to overcome the problems of the traditional costing accounting systems related to providing accounting information for decision-making. It can provide different cost reports over the value stream on the basis of separating the value-added and non-value-added activities (Haskin, 2010). These reports can help managers identify the production costs that add value from customer conception as well as revealing the wastes.

The costing accounting system plays an important role in improving financial performance by providing useful information for decision-making regarding cost management, pricing and product mix. However, most traditional cost accounting systems do not cope with the information requirements for modem enterprise management (Elsukova, 2015). The modem cost management requires detailed cost information on the specific element of the production system could include capacity utilization, idle capacity cost, unnecessary operations or activities. Therefore, the selection of a suitable cost accounting system has been considered a challenge in most enterprises because it has an effect on financial performance. In order to deal with these challenges, managers tend to adopt the Lean Accounting approach that leads to the

elimination of waste (Monroy *et al.*, 2012). In this context, the implementation of Lean Accounting allows companies to reduce production costs and gives them the incentive to improve their financial performance by reducing the overall cost of activities (Aziz *et al.*, 2017). The focus of most prior studies has been on developing an accounting technique to overcome the shortcomings of traditional costing systems and revealing the determinants of financial performance in healthcare institutions, e.g., Van der Steen, & Tillema, (2018), McCue, (2017), Gracanin, Buchmeister and Lalic, (2014), and Nattinger *et al.* (2018).

Although the positive impact of Lean Accounting practices on financial performance has been demonstrated in prior research, little attention has been paid to the association between value stream costing and financial performance in various sectors. The lack of attention is documented in the recent literature review carried by Barnes *et al.* (2018) which indicates that there is limited research that emphasize financial performance and quality performance in institutions.

2.1 Lean Philosophy Model

The model was coined by John Krafcik in 1988. The establishment of lean management philosophy primarily considers the fundamental principles that inspire the development and operations of a business enterprise, the nature and purpose of the business, its role in society and moral obligations. Lean philosophy is important to an organization and its management on the ground that it is an appellation that denotes a way of doing business or the establishment of a business outlook (Mascitelli, 2011).

For many, lean is the set of tools that assist in the identification and steady elimination of waste. As waste is eliminated quality improves while production time and cost are reduced. A non-exhaustive list of such tools would include: SMED (Single-minute exchange of die. It provides a rapid and efficient way of converting a service process from running the current service to running the next service (Martin, Hiebl & Christine, 2013).Value stream mapping (a lean-management method for analyzing the current state and designing a future state for the series of events that take a product or service from its beginning through to the customer (Firk, Schrap & Wolff, 2016). There are five 5S phases: They can be translated from Japanese as Sort, Set in order, Shine, Standardize, and Sustain. It describes how to organize a work space for efficiency and effectiveness by identifying and storing the items used, maintaining the area and items, and sustaining the new order. The decision-making process usually comes from a dialogue about standardization, which builds understanding among employees of how they should do the work (Okpala, 2013). Kanban (queue limiter- Kanban is an inventory-control system to control the supply chain. Taiichi Ohno, an industrial engineer at Toyota, developed kanban to improve service efficiency. Kanban is one method to achieve (JIT*)*, (pull systems), poka-yoke (error-proofing), total productive maintenance, elimination of time batching, mixed model processing, rank order clustering, single point scheduling, redesigning working cells, multi-process handling and control charts for checking mura (Mascitelli, 2011).

Lean philosophy was relevant to this study because Lean Accounting when applied to all departments of an organization leads to overall meaningful changes and excellent results, it refines a company's operations, encourages finance department staff to learn about Lean methods through actual hands-on experience and freeing up finance department time by removing waste in the process. Additionally, the control of production and other processes is achieved by visual performance measurements at the shop-floor and value stream level (Ittner & Larcker, 2011). This measurement eliminates the need for the shop-floor tracking and variance reporting favored by traditional accounting systems.

The biggest criticism of lean philosophy is that the constant focus on improvement and elimination of waste becomes an obsession and causes stress in the workforce. Lean makes the workplace too clinical and impersonal, with workers under relentless pressure to do better than before (Mascitelli, 2011). Another criticism of lean philosophy is the over-focus on elimination of waste overriding other concerns. Lean strives to ensure productivity and efficiency primarily through cutting flab, but in the process, ignores other crucial parameters such as employee wellness, and corporate social responsibility. A company, for instance, might recruit additional workers than necessary as part of its corporate social responsibility necessary to establish good relationships with local communities. Lean does not cater to such unconventional requirements (Elhamma & Moalla, 2015).

3. Methodology

3.1 Research Design
A research design is an outline for the collection, measurement and analysis of data. It guides the entire research process (Orodho, 2009). The study used a cross-sectional research design. This is because such studies on Lean Accounting haven't been conducted more clearly, thus the researchers intended to establish priorities, develop operational definitions and improve on the clarity of the previous studies. The researchers also adopted this research design because of the scanty past data and just a few studies for reference, Creswell & Plano (2011).

3.1 Population of the Study
Population refers to the entire group of individuals, objects or things that share common attributes, from which the researchers seek to find information. The target population is the entire group of individuals, objects or things that share common attributes and to which results will be generalized (Kombo & Tromp, 2006). The target population for the study was all management staff working in commercial banks in Eldoret town, Kenya coming to a total of 130 respondents. The accessible population is a sub-set of the target population which the research can access to be involved in the study. The accessible population for this study was therefore the management cadre employees working in all the 27 commercial banks in Eldoret town. This included the branch managers, operations

and control managers and the bank accountants making a total of 130 respondents as indicated in the Appendix below.

3.2 Census Survey

The study used census. This is because the researchers would have wished to do a more generalised inference which a sample would not achieve. The census was also used so as to get a total representation of the management view as opposed to just from a sample. Therefore, all the 32 branch managers, 32 operations and control managers and 66 accountants totaling to 130 respondents were included in the study.

3.3 Data Collection Instruments

The study used questionnaires in order to gather primary data on value-based management accounting. Questionnaires give respondent adequate time to give well thought out answers. Bias from the respondents and researchers is also eliminated (Orodho, 2009). This method collected a lot of information over a short period of time. The method is suitable when the information needed can be easily described in writing and there is limited time. In the study the respondents were given time to complete the questionnaires before returning them for analysis. The questionnaires contained both the structured and semi- structures parts. Secondary data was collected using documentary analysis. Documentary analysis generally provides data source, which is available and permanent in a way that can be examined by others (Kombo & Tromp, 2006).

3.4 Pre-testing of Research Instruments

Pilot study refers to a small-scale rehearsal of the research design. It enables testing of the feasibility, instruments and methods (Orodho, 2009). A pilot study was conducted to test the validity and reliability of the research questionnaire. It involved 10% of the size of the sample population (Orodho, 2009). This equals to 13 respondents randomly drawn from the management team of commercial banks in Kitale town. Participants in the pilot testing were not involved in the final study.

3.5 Validity

Validity is the degree to which an instrument measures what it claims or purports to measure. It is the accuracy, truthfulness and meaningfulness of inferences that are based on the data obtained from a tool or a scale for each construct in the study (Kombo & Tromp, 2006). Construct validity of research questionnaire was measured by the test instruments in Kitale's banks. Content validity on the other hand was ensured by consulting the supervisor. This assisted in the evaluation of the concept the questionnaire is trying to measure and to determine whether the set of items accurately represents the concepts.

3.6 Reliability

Reliability is the consistency with which a research instrument measures the construct or content area it is intended to measure. It is reported as a coefficient ranging from 0.00 (low) to +1.00 (high). A coefficient above or equal to 0.70 is considered sufficient for most cases (Orodho, 2009). Therefore, reliability of the questionnaire was tested using Cronbach's alpha coefficient where a threshold value of ≥ 0.7 was used.

3.7 Data Collection Procedures

After testing the validity and reliability of the research questionnaire, the researcher sought the consent of Jomo Kenyatta University of Agriculture and Technology and the management of commercial banks in Eldoret town. The research questionnaires were then administered to the respondents by the researcher in person.

3.8 Data Processing and Analysis

The data collected was cleaned, edited, coded and stored before being analyzed. Both descriptive and inferential statistics were used for data analysis. Descriptive statistical tools included frequency, percentages, means, standard deviations and Variance. Inferential statistics include Pearson Product Moment Correlation and multiple regression analysis. Data was presented in tables.

The following regression model was used:

$Y = \alpha + \beta_1 X_1 + \varepsilon$…………………………….……………………………...………….Equation 3.1

Where, Y represents the dependent variable, α represents the constant, β_1 represents the coefficient of the independent variable, X_1 represents the independent variable, and ε represents the error term.

4. Results

4.1 Response Rate

The researcher administered questionnaires to 130 respondents and 106 duly filled questionnaires were returned. This represents a response rate of 81.54 %. According to Zikmund *et al.,* (2010) observed that in descriptive research, a response rate of above fifty percent (50%) is adequate for analysis, sixty percent (60%) good and seventy percent (70%) and above to be very good. Thus, the response rate achieved in this study can be considered sufficient to give the findings adequate reliability.

4.2 Reliability Test Results

Reliability is a measure of the consistency of the research instrument (Hair *et al.,* 2007). Reliability was tested using the Cronbach alpha coefficient. The reliability threshold was alpha equal to or greater than 0.7. The results of the internal consistency of the research instrument are as shown in Table 4.1

Table 4.1: Cronbach's Alpha Reliability

Variables	Cronbach Alpha Coefficient	Test Items
Lean Accounting	0.853	7

From Table 4.1, it is indicated that the reliability coefficients of the study variable, Lean Accounting, was above 0.7. This implied that the research instrument was reliable. This concurs with the suggestion made by Nunnally, (1978) that the internal consistency is considered to be sufficient and adequate if it's reliability value above 0.7.

4.3 Demographic Information
Background information is aimed at providing relevant information on the composition of the respondents. The study grouped demographic information of the respondents in terms of gender, age bracket, education level and service duration with the bank.

4.4 Gender of the Respondents
The study sought to establish the respondents' gender. The results are presented in Table 4.2.

Table 4.2: Gender of the Respondents

Gender	Frequency	Percentage
Male	71	67
Female	35	33
Total	**106**	**100**

From the results in Table 4.2, 71(67%) were male and 35(33%) were female. This is a clear indication that males form the majority of the managers and accountants in the banks. Thus, the gender of the respondents could influence the findings as it was not fairly balanced. This implies that the researcher was able to minimize the influence of gender biasness by collecting data across all genders. This was interpreted to mean that the data collected represented the views of both genders and hence was not biased despite the disparities in the distribution which indicated that there were slightly more male than female respondents.

4.5 Distribution of Respondents by Age Bracket
The study sought to establish the age bracket of the respondents. The results are presented in Table 4.3.
From Table 4.3, the majority of the respondents 31(29.2%) lie between the ages of 41-45, followed by the age bracket 36-40 years, 30(28.3%). The age bracket 31-35 years represented 24(22.6%) persons who responded. The age over 45 years came in fourth at 13 (12.3%) and lastly was the 26-30 years which was 8 (7.5%). This is a clear indication that the people managing the bank branches in terms of operations and finances are majorly middle-aged. However, it is important to note that a younger population is also coming up with evidence of less than 30 years in the brackets of 26-30 years. Bass (2005)

argues that age brings in experience, responsibility and skills. These findings imply that majority of the people managing banks are energetic, very active, experienced, responsible and skilled.

Table 4.3: Age Bracket

Age Brackets	Age	Percent
26-30 Years	8	7.5
31-35 Years	24	22.6
36-40 Years	30	28.3
41-45 Years	31	29.2
Over 45 Years	13	12.3
Total	**106**	**100**

4.6 Distribution of Respondents by Academic Qualifications
The study also sought to determine respondent's education level. Table 4.4 shows the results of the analysis.

Table 4.4: Level of Education

Level of Education	Frequency	Percent
Diploma	10	9.4
Degree	76	71.7
Masters	20	18.9
PhD	0	0
Total	**106**	**100**

The findings of the study in Table 4.4 indicated 10(9.4%) of the respondents had diploma education, 76 or 71.7% (76) of the respondents were degree holders, and 20 or 18.9% were Master's degree holders. This implies that majority of the respondents had degree qualification. That is satisfactory level of education that can comfortably facilitate proper understanding of the research questionnaire.

4.7 Distribution of Respondents by Period Worked in the Firm
The study sought to find out the duration the respondents have been working since they were employed. Table 4.5 shows the results of the analysis.

Table 4.5: Duration Worked

Service Duration	Frequency	Percent
Less than 1	2	1.9
2-3 Years	3	2.8
4-5 Years	13	12.3
6-7 Years	27	25.5
8-9 Years	42	39.6
Over 9 Years	19	17.9
Total	**106**	**100**

It is evident from the findings in Table 4.5 that majority of the respondents 42 (39.6%) have been working in the firm for a duration of 8-9 years. Those who have worked for between 6-7 years were 27(25.5%). Still again, findings show that a further 19 (17.9%) have worked in the banks for over 9 years while those who have worked in the firm for between 4-5 years were 13(12.3%). The study also indicated that 3(2.8%) had worked in the firm for a duration 2-3 years and that only 2 (1.9%) of the respondents had less than one year experience working in the management of the bank. This implies that the banks had attracted and retained skilled and capable management as evidenced by their experience and the duration of the managers in the job. This is evidenced by the duration worked in the firm which is usually in line with experience, responsibility and skills of the various personnel person (Karanja, 2011).

5. Descriptive Findings and Discussions

This section illustrates descriptive findings and discussions based on the objective of the study. The findings are presented in form of mean, standard deviations, and variances. The responses are in line with a 5 Point Likert-Scale ranging from: Strongly Disagree = 1, Disagree = 2 Undecided = 3, Agree = 4 and Strongly Agree = 5.

The researcher sought to determine the relationship between Lean Accounting and the financial performance of commercial banks in Eldoret, Kenya. This helped to establish the extent to which Lean accounting affects the financial performance of commercial banks. Table 4.6 shows the results of Lean Accounting as found.

Table 4.6: Findings for Lean Accounting

Lean Accounting Statement	N	Min	Max	Mean	SD	Variance
Our bank has adequately adopted the Five S model to improve the productivity	106	1	5	4.18	0.68	0.46
Our bank creates value for the customer by drawing value flows to meet customer needs	106	1	5	4.15	0.71	0.50
Our bank organizes costs by value stream mapping to make decisions to improve revenue and profitability	106	1	5	4.12	0.75	0.56
Our bank is keen in eliminating most of the losses associated with traditional accounting	106	1	5	4.10	0.79	0.62
Our bank uses kanban to manage the queueing systems	106	1	5	4.05	0.81	0.66
Our bank uses a single-minute exchange of die as a strategy of wastage reduction	106	1	5	4.02	0.83	0.69
Our bank clearly identifies the financial impact of Lean improvements	106	1	5	3.86	0.87	0.76
Grand Mean = 4.068						

The findings in Table 4.6 indicates that the respondents agreed (Mean = 4.18; Std Dev = 0.68) with the statement that the bank has adequately adopted the five S model to improve productivity. Respondents also agreed (Mean = 4.15; Std Dev = 0.71) that their

bank creates value for the customer by drawing value flows to meet Customer needs. The findings of this study further indicate with (Mean = 4.12; Std Dev = 0.75) that the banks organize costs by value stream mapping to make decisions to improve revenue and profitability. The study also showed that with (Mean = 4.10; Std Dev = 0.79), bank is keen in eliminating most of the losses associated with traditional accounting as a strategy of wastage reduction. In addition, respondents also concurred with (Mean = 4.05; Std Dev = 0.81) that their banks use kanban to manage the queueing systems. The study further indicates that the respondents agreed (Mean = 4.02; Std Dev = 0.83) that their banks use a single-minute exchange of die as a strategy of wastage reduction. Respondents also agreed (Mean = 3.86; Std Dev = 0.87) that their banks clearly identify the financial impacts of lean improvements.

These findings are corroborated by other literature findings that showed that the concept of Lean Accounting can make the banking industry more efficient and effective, (Visser, 2016). The findings are also supported by other literature works showing that confirming that Lean Accounting is not easily separated from the concept of a balance scorecard, (Chiarini 2012). The findings also concur with Okpala, (2013) that Lean Accounting is regarded as the best continuous improvement program, which is now known in the business.

5.1 Lean Accounting and Financial Performance

The correlation analysis results of the relationship between lean accounting and financial performance of the commercial banks in Eldoret town, Kenya was presented in Table 4.7.

Table 4.7: Lean Accounting

		Financial Performance
Lean Accounting	Pearson Correlation	.792**
	Sig. (2-tailed)	.002

**. Correlation is significant at the 0.05 level (2-tailed).

These study findings in Table 4.7, indicated that the relationship between Lean Accounting and financial performance was positive and statistically significant (r = .792; p> 0.05). This implies that Lean Accounting positively and significantly influences the financial performance of commercial banks in Eldoret town, Kenya. These findings can be corroborated by those done by Wahdia, (2016) who stated that the concept of Lean Accounting can make the banking industry more efficient and effective. This study showed that the concept of Lean Accounting can make the banking industry more efficient and effective.

5.2 Multiple Regression Analysis

The study established the combined effect of Lean Accounting; activity-based costing, and resource consumption on financial performance. The results of the multiple regression analysis are shown in Table 4.8.

Table 4.8: Multiple Regression Model Summary

R	R Square	Adjusted R Square	Std Error of the Estimate
.898[a]	.806	.779	.337

a. Predictors: (Constant), Lean accounting, activity-based costing, resource consumption
b. Dependent Variable: Financial performance

From Table 4.8, R-Squared is used to evaluate the goodness of fit of a model. In regression, the R square coefficient of determination is a statistical measure of how well the regression line approximates the real data. It measures the proportion of the variation in dependent variable explained by independent variables. From the results on model summary R = 0.898, R- square = 0.806, adjusted R- square = 0.779, and the SE = 0.337. The coefficient of determination also called the R square is 0.806. This implies that the effect of the predictor variables, Lean Accounting, explains 80.6% of the variations in the financial performance of commercial banks in Eldoret town. This implies that a change in Lean Accounting has a strong and positive effect on the financial performance of commercial banks. This study thus assumes that the difference of 19.4% of the variations is as a result of other factors.

5.3 Assessing Fit of the Multiple Regression Model

Multiple regression analysis was conducted to test the influence of predictor variables on the financial performance of commercial banks. All three null hypotheses were tested using F statics. The test results are shown in Table 4.9.

Table 4.9: Overall Results of ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	7.292	1	2.012	21,119	.001[a]
	Residual	14.765	104	.129		
	Total	22.057	105			
a. Dependent Variable: Financial performance						
b. Predictors: (Constant), Lean Accounting,						

The findings of the study in Table 4.9 showed that there was a statistically significant relationship between the independent variables and the dependent variable (F= 21,119; p=0.01). This therefore indicates that the multiple regression model was a good fit for the data. It also indicates that value-based management factors i.e., Lean Accounting, activity-based costing and resource consumption all influence the financial performance of commercial banks.

5.4 T-test of Individual Regression Coefficients

The t-test was conducted to determine whether the individual regression coefficients were statistically significant. These results were presented in Table 4.10.

Table 4.10: Individual Regression Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		β	Std. Error	βeta		
1	(Constant)	.841	.359		2.830	.013
	Lean accounting	.209	.093	.223	3.250	.002
	a. Dependent Variable: Financial performance					

From the study, the Hypotheses stated that:

H₀₁: There is no significant relationship between Lean Accounting and the financial performance of commercial banks in Eldoret town in Kenya.

The results showed that Lean Accounting was positive and significant predictor of financial performance with (t = 3.250; ϱ < 0.05). The null hypothesis was therefore rejected. The study hence concluded that there was a significant relationship between Lean Accounting and the financial performance of commercial banks in Eldoret town in Kenya.

6. Conclusion

The objective of the study sought to establish whether Lean Accounting determines the financial performance of commercial banks in Eldoret town in Kenya. The study indicated that Lean Accounting was positively and significantly related to financial performance. This implied that Lean Accounting is a critical factor for the financial performance of commercial banks. These findings meant that the null hypothesis that there is no significant relationship between Lean Accounting and the financial performance of commercial banks in Eldoret town was rejected.

Thus, Lean Accounting was a predictor of financial performance. The study also concluded that organizing costs by value stream, adopting the Five's model, using a single-minute exchange of die, and eliminating most of the losses promote the commercial banking sector' financial performance. The study concluded therefore that incorporating Lean Accounting as an accounting strategy in the banks is of great importance as it will lead to cost-cutting and hence widen the profitability percentages of the banking sector. Lean Accounting also enables the operations managers of the banks to clearly set their goals pertaining to how much to use and when to use the available ever limited financial resources.

Conflict of Interest Statement
This is a declaration by all the above authors that;
1) This paper has not been published by any other journal anywhere else;
2) That there are no financial, commercial, legal or professional obligations against this paper by any person(s) or organizations nor with colleagues that could influence or affect the publishing of this paper.

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K'odongo Kaire, an Academic Renaissance Man. K'Odongo has pursued relevant academic and professional accounting and finance courses in combination with short courses to establish a good understanding in the field. With PhD in accounting, MSc in Accounting and Finance, Bachelors of Commerce with a bias in Accounting and CPA (K). K'Odongo is a business administration polymath (with Advanced Diploma in Business Administration) to strengthen the values around which accounting is practiced in the business environment. Plus, a proper foundation of Diploma in accountancy, it carries all it can in this field not only to claim on the vast experience but also academic expertise. All these can be combined with short courses in anti-money laundering, project development and appraisal, change management and proficiency in both organizations tailored and over the shelf accounting packages. Currently, K'Odongo is a lecturer at Jomo Kenyatta University of Agriculture and Technology, Kenya. With like-minded professionals, K'Odongo is into serious consultancy works in matters accounting and finance and has attained the heights of international recognition. Other links, https://www.researchgate.net/profile/Kodongo-Kaire-3; Google Scholar verified at kondongo.kaire@jkuat.ac.ke.

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Appendix: Accessible Population

Bank Name	Branch manager	Operations managers	Accountants	Total
ABC Bank	1	1	2	4
Bank of Africa	1	1	2	4
Bank of Baroda	1	1	2	4
Bank of India	1	1	1	3
Barclays Bank	1	1	3	5
Chase Bank	1	1	2	4
Commercial Bank of Africa	1	1	2	4
Consolidated Bank of Kenya	1	1	2	4
Co-operative Bank	2	2	5	9
Diamond Trust Bank	1	1	1	3
Eco Bank	1	1	2	4
Equity Bank Market Branch	2	2	3	7
Family Bank	1	1	2	4
Guardian Bank	1	1	2	4
Housing Finance Co. Ltd	1	1	2	4
I & M Bank	1	1	2	4
Kenya Commercial Bank	4	4	8	16
Middle East Bank	1	1	2	4
National Bank of Kenya	1	1	4	6
NIC Bank	1	1	2	4
Oriental Commercial Bank	1	1	2	4
Post Bank Limited	1	1	2	4
Prime Bank Limited	1	1	1	3
Sidian Bank	1	1	2	4
Spire Bank	1	1	2	4
Standard Chartered Bank	1	1	3	5
Trans-National Bank Ltd	1	1	2	4
Total	**32**	**32**	**66**	**130**

Source: Researcher, 2023.