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Creative Accounting among Corporations Listed in NSE: Sector Analysis

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Abstract:
The raison d'être for this study was to analyse creative accounting vice among corporations listed in NSE in Kenya. Although creative accounting is an old practice, it still remains unresolved to date. The literature reviewed pointed to a possibility of creative accounting being practiced among major corporations in Kenya. The study population comprised 64 companies listed on NSE. A sample of 39 firms was selected for the survey and their financial statements for the year 2013 and 2014 analyzed. The data was analyzed on the basis of modified Jones model to estimate the discretionary accruals in various sectors. The results were explained on the basis of the sectors which were: Agricultural, Automobiles & Accessories, Banking, Commercial & Services, Construction & Allied, Energy and Petroleum, Insurance, Investment, Manufacturing & Allied, and Telecommunication & Technology. The study concluded that there were significant variances in discretionary accruals for various sectors as represented by firms listed in NSE in Kenya.

Keywords: Creative Accounting, Discretionary Accruals, NSE, Corporations, Sector Analysis

1. Introduction

Creative accounting is as old as the accounting profession itself. Creative Accounting continues to be a problem despite the fact that accounting scholars have over the years carried out several researches in order to understand and address it. Creative accounting continues to be practiced by various corporations in the world including in Kenya hence the researcher's interest in its determinants. Much of the studies which relate to practices influencing creative accounting dwell mainly on the positive accounting theories but this paper included practices associated with agency theory and information theory so as to have a wider view of the problem.

The basic information about creative accounting was brought up by the father of accounting Luca Pacioli in 1494. This was through his seminal work on accounting, De Arithmetica, where Pacioli described creative accounting as an attempt to make figures more appealing or otherwise in the eyes of the accounts' readers. Therefore, practice of creative accounting has been in existence for over 500 years. The accountants have used the term 'cover up' since then. In 1920s during the birth of corporate governance principles, creative accounting was considered as one of the main reasons for its development. This was because of financial and legal innovations which were practiced to allow corporate managers extort control of corporations away from their legal owners who are the shareholders (Ripley, 1927). Creative accounting also involves innovatively concealing errors discovered in the books of accounts (Balaciu et' al, 2009).

Creative accounting is usually believed to have led to emergence of various disciplines such as; auditing profession in the 18th century after management took advantage of the separation of management and ownership functions to engage in opportunistic behaviour (Rabin, 2005); corporate management (Ripley, 1927); and development of generally accepted accounting standards following the great depression where several dollars was lost in the stock market and Securities Act of 1934 was passed in America which gave American Institute of Accountants task to come up with standards (Prentice& Spence, 2006).

Collapse of various multinational and major corporations in the world is attributed to the practice of creative accounting. During the last two decades, severe accounting scandals occurred in large companies such as WorldCom, Enron BCCI, Barings, HealthSouth and Tyco in USA, Baninter Intercontinental in Dominican Republic, Parmalat SPA a multinational Italian food and Daily Corporation, Olympus Corporation in Japan, Satyam Computer Services in India and the Sanlu Group in China among many other large corporations in the world (Omurgonulsen & Omurgonulsen, 2009; Zingales, 2004; Rajagopalan, & Zhang, 2009; Soble, 2011). Fall of Enron was one of the biggest scandals in the world provides lessons that detrimental commitment to maximization of share prices worsens the old warning signs that could have conventionally caused corporate financial frauds (Prentice, 2002). The fall of Enron necessitated the fall of their auditor Author Anderson (Grey 2003).

Creative accounting is being practiced by many companies across the world. In India for example, the following companies are on record having practiced various forms of accounting manipulations: WIPRO Ltd a successful company in the IT sector, transferred land worth Rs.197 million from fixed assets to current assets, awaiting its sale; Larsen & Toubro Ltd assigned some of its outstanding debt to one of its subsidiaries and the effect was inflated profits arising from a contingent liability; Hindustan Zinc Ltd reclassified

investments into tangible assets to bend the requirement of valuation of investments; and most recently ONGC Ltd capitalized interest as and other intangible assets to adjust fixed assets value upward and understating revenue expenses (Gosh, 2009).In USA there is tendency of new managers to show losses due to poor management of previous management. This tendency was found to be common in US bank managers. Further window dressing is likely to take place before corporate events like IPO, acquisition or before taking a loan (Shah and Butt, 2011).

Akenbor & Ibanichuka (2012) found out that creative accounting was being practiced by Nigerian Banks, the major reason being, to boost up the market value of shares and as a result users of accounting information are adversely affected. Reports by Reserve Bank of Zimbabwe (2006) indicated that, in Zimbabwe the bank's collapse, partly as a result of creative accounting, where banking institutions creates two sets of books; one showing a strong financial status and another a different representation. In South Africa, research suggests that aggressive accounting occurs where transactions are structured to avoid recognition criteria within GAAP and by manipulating recognition and measurement principles to achieve a preset desired end result (Rabin, 2005).

The current management accounting system in Kenya appears to be frail. There are some difficulties associated with the current management accounting in Kenya and hence ethical consideration could help revamp the whole system (Mathenge, 2012). Several companies in Kenya are reportedly faced with allegations of massive fraud and creative accounting, the most recent one being Harambee SACCO whose top officials were suspended by SACCO Societies Regulatory Authority (SASRA) to pave the way for investigations into the alleged fraud (Omwenga, 2012).

There is a rising trend of Kenyan firms having financial difficulties and even some collapsing examples being KCC, Uchumi Supermarkets, A Baumann and Company, Bulk medical limited Nyaga stock brokers etc. (Maina and Sakwa, 2012). The financial statements of some of the organizations showed signs of strength despite their internal weaknesses. This research therefore sought for an in depth analysis of the practices influencing creative accounting in Kenya.

2. Methodology

2.1. Research Design
Research design is defined as the conceptual structure within which research is conducted; it comprises of the overall plan for the collection, measurement and analysis of data (Kothari, 2008). This research employed a cross-sectional survey design which involved analysis of the sector data derived from the year 2014 financial statements. A sample of 39 companies selected from various sectors was analyzed.

SECTOR	NO OF COMPANIES	SAMPLE SIZE
Agricultural	7	4
Automobiles & Accessories	3	2
Banking	11	7
Commercial & Services	10	6
Construction & Allied	5	3
Energy and Petroleum	5	3
Insurance	6	4
Investment	6	3
Manufacturing & Allied	10	6
Telecommunication & Technology	1	1
Total	**64**	**39**

Table 1: Sample Size

2.2. Data Collection
Secondary data means data that are already available i.e., they refer to the data which have already been collected and analyzed by someone else (Kothari, 2008). The researcher also analyzed the financial statements of the selected firms so as to establish the discretionary accruals which are one of the indicators of creative accounting. The review of auditor reports also formed part of the secondary data analysis. Secondary data was compared with the primary data during the analysis so as to get a bigger view of the creative accounting situation in Kenya. The secondary data was also used to triangulate the primary data.

2.3. Data Analysis
The researcher studied the financial statements for the sampled corporations in order to establish the level of operational discretionary accruals, which is one of the measures of creative accounting. One of the most commonly used model to estimate the nondiscretionary accrual component is the Modified Jones Model (1991) which was employed in this research. The model is stated as:

NOA / ATA = β0 + β1(1/ATA) + β2(ΔSales − ΔRec / ATA) + β3(GPPE / ATA) + ε

Where:
TNA= Total net accruals
NOA= Net operating accruals = Net income – Cash flow from operations
ATA = Average total assets
ΔSales = Change in sales

ΔRec= Change in accounts receivable

GPPE = Gross PP&E

This study employed a cross sectional survey design and in a cross-sectional analysis of the model is a two-stage model. This implies that results from the first part of the analysis are plugged into the next stage to get the needed estimate. To estimate the nondiscretionary accrual amounts, firm-specific amounts for each independent variable were used for a particular period across several different firms. A regression analysis was carried out and once β0, β1, β2 and β3 had been estimated for the cross-section of firms for the period 2014, they were used along with a specific firm's data to estimate the individual firm's nondiscretionary accruals for the year. After processing, the calculation results in an estimate for nondiscretionary accruals scaled by average total assets, represented by NDA / ATA as indicated in the above formula. The second stage was to compute Operational Discretionary Accruals (ODA) using the formula below.

ODA = NOA/ATA – NDA/ATA

The Operational Discretionary Accruals estimate for the firm was then be ranked against the discretionary accrual estimates of the firm's peers and all other firms in the universe. "This ranking is a comparative measure of the size of discretionary accruals, and it is a proxy for the quality of the firm's earnings. A high amount of discretionary accruals indicates lower-quality earnings and is a red flag that management may be using aggressive accounting to overstate earnings" (Tim Keefe, 2015)

The analysis was carried out on the basis of the sectors and results of the second stage of analysis per sector were as indicated in the subsequent tables. A final analysis of all the firms in the sample was also carried out in order to establish the overall situation on creative accounting among the companies listed on the NSE.

According to Deechow 1995 discretionary earnings closer to 1 means that there is creative accounting in the form of earnings management while a factor closer to zero implies no creative accounting. Di Narzo (2012) in their study applied a rule of thumb that coefficients which are in the range of one percent to five percent are acceptable. Following the results of the secondary data analysis this study adopts the Di Narzo's rule of thumb in interpreting the results per sector.

3. Research Findings

When the modified Jones model was applied to the secondary data collected, the first stage results were significant as shown by the ANOVA table 2 and coefficients table 3

	df	SS	MS	F	Significance F
Regression	3	0.300565	0.100188	19.41057	0.00
Residual	35	0.180654	0.005162		
Total	38	0.481219			
a. predictors: (constant), 1/ATA, (Δ Sales – Δ Receivables)/ATA, GPPE/ATA					
b. dependent variable: Creative Accounting (NOA/ATA)					

Table 2: ANOVA for Modified Jones Model

Table 2 shows results of ANOVA test which reveal that the independent variables have significant effect on discretionary accruals since P-value is .000 which is less than 5% level of significance.

	Coefficients	Standard Error	t Stat	P-value
Intercept	0.0368	0.0171	2.147	0.038
1/ATA	-23990	3675.5	-6.526	0.000
(Δ S – Δ Rec)/ATA	0.1624	0.0676	2.402	0.021
GPPE/ATA	-0.1509	0.0437	-3.451	0.001

Table 3: Coefficients for Modified Jones Model

The second stage results, which is the cross sectional sectoral analysis on the basis of the model is as explained in the subsequent sections.

3.1. Agricultural Sector

Nyasa and Odhiambo (2013) observed that agricultural sector is among the least active sector in NSE. The Modified Jones Model was applied on the sample of four companies in the agricultural sector. The results of the analysis are as shown in the table 4.

FIRM	NOA/ATA	1/ATA	Sal-Rec/ATA	GPPE/ATA	NDA	ODA
1	-0.090368	0.00000027	0.094782	0.727268	-0.063908	-0.02646
2	0.060179	0.00000031	-0.014495	0.264569	-0.012780	0.07295
3	-0.035109	0.00000050	-0.127410	0.262194	-0.035250	0.00014
4	-0.056564	0.00000012	-0.140701	0.255005	-0.027263	-0.02930
Average	-0.030465	0.00000030	-0.046956	0.377259	-0.034800	0.00433

Table 4: Discretionary accruals in agricultural sector

The table shows that out of the four sampled companies, three companies' discretionary accruals falls within the acceptable range of 1% to 5%. This translates to 25% of the companies in the sector may have a possibility of engaging in creative accounting practices. Generally, the agricultural sector coefficient of operational discretionary accruals falls within the acceptable range. These findings are corroborated by Oluoch et al (2015) who observed that agricultural sector of NSE has the highest accruals quality.

3.2. Automobiles and Accessories

Analysis on the basis of the Modified Jones Model was applied on the sample of two companies in the automobiles and accessories sector. The results of the study are as shown in the table 5.

FIRM	NOA/ATA	1/ATA	Sal-Rec/ATA	GPPE/ATA	NDA	ODA
1	-0.047996	0.00000030	-0.085871	0.108881	-0.00061	-0.04737
2	0.033880	0.00000142	-0.055360	0.065591	-0.01532	0.049200
Average	-0.007058	0.00000086	-0.070615	0.087236	-0.00797	0.000912

Table 5: Discretionary accruals in automobiles and accessories sector

The table shows that out of the two sampled companies, both companies' discretionary accruals falls within the acceptable range of 1% to 5%. This implies that none of the companies in the sector may have a possibility of engaging in creative accounting practices. Generally, the automobile and accessories sector coefficient on operational discretionary accruals falls within the acceptable range. The sector coefficient is closer to zero which means that the degree of earnings management is quite low and that the probability of creative accounting being practiced among the companies in the sector is almost zero. These findings are inconsistent with observations by Oluoch et al (2015) who observed that automobiles and accessories sector of NSE is among the sectors with the poorest accruals quality.

3.3. Banking Sector

The seven companies sampled from the banking sector were analyzed for creative accounting through earnings management on the basis of the two stage Modified Jones Model and the results recorded in the table 6.

FIRM	NOA/ATA	1/ATA	Sal-Rec/ATA	GPPE/ATA	NDA	ODA
1	-0.0072741	0.000000004	-0.13149	0.032735	0.010424	-0.017698
2	0.0522072	0.000000003	-0.12112	0.014059	0.014946	0.037261
3	0.0626758	0.000000004	-0.12513	0.029144	0.011982	0.050694
4	0.0028575	0.000000004	-0.06852	0.046497	0.018553	-0.015696
5	0.0484319	0.000000003	-0.04387	0.016621	0.027095	0.021337
6	0.0473513	0.000000007	-0.12566	0.027213	0.012121	0.035230
7	0.0255350	0.000000008	-0.47899	0.037035	-0.046768	0.072303
Average	0.0331121	0.000000005	-0.15640	0.029043	0.006908	0.026204

Table 6: Discretionary accruals in Banking sector

The table illustrates that out of the seven companies sampled from the sector, five companies' discretionary accruals falls within the acceptable range of 1% to 5%. This implies that about 28% of the companies in the banking sector may have a possibility of engaging in creative accounting practices. In general, the average banking sector coefficient of operational discretionary accruals falls within the acceptable range. However, the coefficient is comparatively higher than most of the other sectors.

3.4. Commercial and Allied Sector

Analysis on the basis of the Modified Jones Model was applied on the sample of six companies in the commercial and allied sector. The operational discretionary accruals result of the individual sampled companies in the sector are as shown in the table 7.

FIRM	NOA/ATA	1/ATA	Sal-Rec/ATA	GPPE/ATA	NDA	ODA
1	0.034722	0.00000134	0.46237	0.22084	0.04727	-0.01255
2	-0.064249	0.00000024	0.00445	0.55268	-0.05158	-0.01267
3	-0.041169	0.00000001	0.02594	0.59458	-0.04887	0.00770
4	-0.036146	0.00000008	0.13740	0.03894	0.05148	-0.08762
5	-0.015964	0.00000024	0.08831	0.43650	-0.02026	0.00429
6	-0.012947	0.00000006	-0.02714	0.70303	-0.07517	0.06222
Average	-0.022625	0.00000033	0.11522	0.42443	-0.01619	-0.00644

Table 7: Discretionary accruals in commercial and allied sector

The table demonstrates that out of the six companies sampled from the commercial and allied sector, four companies' discretionary accruals falls within the acceptable range of 1% to 5%. This implies that about 33% of the companies in the commercial and allied

sector may have a possibility of engaging in creative accounting practices. In general, the average commercial and allied sector coefficient of operational discretionary accruals falls within the acceptable range. This implies that the general probability of a firm in the sector engaging in creative accounting is quite low. These findings are corroborated by Oluoch et al (2015) who observed that commercial and allied sector of NSE was among the sectors with has the highest accruals quality.

3.5. Construction and allied Sector

The Modified Jones Model was applied on the sample of three companies in the construction and allied sector. The results of the analysis are as shown in the table 8.

FIRM	NOA/ATA	1/ATA	Sal-Rec/ATA	GPPE/ATA	NDA	ODA
1	-0.056647	0.00000002	0.033642	0.591910	-0.047627	-0.009020
2	0.098591	0.00000034	0.139681	0.250050	0.013811	0.084781
3	-0.022002	0.00000017	0.076393	0.422835	-0.018582	-0.003420
Average	0.006648	0.00000018	0.083238	0.421599	-0.017466	0.024113

Table 8: Discretionary accruals in construction and allied sector

The table shows that out of the three sampled companies, two companies' discretionary accruals falls within the acceptable range of 1% to 5%. This implies that one of the companies in the sector, which represents 33% of the sample, may have a possibility of carrying out creative accounting practices. Generally, the automobile and accessories sector coefficient on operational discretionary accruals falls within the acceptable range. The sector coefficient is closer to the coefficient under the banking sector which means that the degree of earnings management is quite high as compared to the other sectors. These findings are corroborated by Oluoch et al (2015) who observed that construction and allied sector of NSE has the moderate accruals quality.

3.6 Energy and Petroleum Sector

Analysis on the basis of the Modified Jones Model was applied on the sample of three companies in the energy and petroleum sector. The operational discretionary accruals result of the individual sampled companies in the sector are as shown in the table 9.

FIRM	NOA/ATA	1/ATA	Sal-Rec/ATA	GPPE/ATA	NDA	ODA
1	-0.070508	0.000000006	0.00078	0.791325	-0.082616	0.01211
2	-0.037092	0.000000004	0.00922	0.836256	-0.087987	0.05089
3	0.287613	0.000000031	0.61133	0.264880	0.095390	0.19222
Average	0.060004	0.000000013	0.20711	0.630820	-0.025071	0.08507

Table 9: Discretionary accruals in energy and petroleum sector

The table shows that out of the three companies sampled from the sector, only one company's discretionary accruals falls within the acceptable range of 1% to 5%. This implies that 66% of the companies in the sector may have a possibility of being involved in creative accounting and related practices. In general, the energy and petroleum sector coefficient of operational discretionary accruals falls outside the acceptable range. This means that it is highly likely that a firm in the energy and petroleum sector will be involved in creative accounting. These findings are consistent with the observations by Oluoch et al (2015) who found out that Energy and petroleum sector of NSE has the lowest accruals quality.

3.7 Insurance Sector

Analysis on the basis of the Modified Jones Model was applied on the sample of four companies in the insurance sector. The operational discretionary accruals result of the individual sampled companies in the sector are as shown in the table 10.

FIRM	NOA/ATA	1/ATA	Sal-Rec/ATA	GPPE/ATA	NDA	ODA
1	-0.011855	0.000000014	0.03574	0.01834	0.039514	-0.05137
2	-0.066902	0.000000047	0.00646	0.00542	0.035925	-0.10283
3	0.011281	0.000000031	0.06699	0.00288	0.046518	-0.03524
4	-0.118203	0.000000149	0.15625	0.04363	0.052102	-0.17031
Average	-0.046420	0.000000060	0.06636	0.01757	0.043515	-0.08993

Table 10: Discretionary accruals in insurance sector

The table illustrates that out of the four companies sampled from the sector, two companies' discretionary accruals falls within the acceptable range of 1% to 5%. This implies that about 50% of the companies in the insurance sector may have a possibility of

engaging in creative accounting practices. In general, the average insurance sector coefficient of operational discretionary accruals falls outside the acceptable range. Further, the coefficient is comparatively higher than majority of the other sectors.

3.8 Investment Sector
The three companies sampled from the investment sector were analyzed for creative accounting through earnings management on the basis of the two stage Modified Jones Model and the results recorded in the table 11.

FIRM	NOA/ATA	1/ATA	Sal-Rec/ATA	GPPE/ATA	NDA	ODA
1	0.095028	0.00000003	0.00562	0.36643	-0.01837	0.11340
2	0.073977	0.00000027	0.01850	0.01473	0.03137	0.04260
3	-0.087798	0.00000005	-0.03087	0.37832	-0.02650	-0.06129
Average	0.027069	0.00000012	-0.00225	0.25316	-0.00450	0.03157

Table 11: Discretionary accruals in investment sector

The table shows that out of the three companies sampled from the sector, only one company's discretionary accruals falls within the acceptable range of 1% to 5%. This implies that 66% of the companies in the sector may have a possibility of being involved in creative accounting and related practices. In general, the investment sector coefficient of operational discretionary accruals falls within the acceptable range. This means that it is less likely that a firm in the investment sector will be involved in creative accounting.

3.9 Manufacturing and Allied Sector
The Modified Jones Model was applied on the sample of four companies in the agricultural sector. The results of the analysis are as shown in the table 12.

FIRM	NOA/ATA	1/ATA	Sal-Rec/ATA	GPPE/ATA	NDA	ODA
1	-0.148878	0.0000000	0.09902	0.79867	-0.06863	-0.08025
2	-0.033713	0.0000011	-0.23834	0.03500	-0.03234	-0.00138
3	0.010755	0.0000000	0.05706	0.60226	-0.04519	0.05595
4	-0.012344	0.0000000	-0.13647	0.11480	-0.00358	-0.00876
5	0.000624	0.0000001	0.26680	0.30435	0.03129	-0.03066
6	-0.497530	0.0000199	0.05241	0.41246	-0.48283	-0.01470
Average	-0.113514	0.0000035	0.01675	0.37792	-0.10021	-0.01330

Table 12: Discretionary accruals in manufacturing and allied sector

The table demonstrates that out of the six companies sampled from the manufacturing and allied sector, four companies' discretionary accruals falls within the acceptable range of 1% to 5%. This implies that about 33% of the companies in the manufacturing and allied sector may have a possibility of engaging in creative accounting practices. In general, the average commercial and allied sector coefficient of operational discretionary accruals falls within the acceptable range. This implies that the general probability of a firm in the sector engaging in creative accounting is small. These findings are corroborated by Oluoch et al (2015) who observed that construction and allied sector of NSE is among the sectors with the highest accruals quality.

3.10 Telecommunication and Technology Sector
Analysis on the basis of the Modified Jones Model was applied on the sample of two companies in the telecommunication and technology sector. The results of the study are as shown in the table 13.

FIRM	NOA/ATA	1/ATA	Sal-Rec/ATA	GPPE/ATA	NDA	ODA
1	-0.210321	0.000000007	0.155318	0.730932	-0.0484	-0.161872
Average	-0.210321	0.000000007	0.155318	0.730932	-0.0484	-0.161872

Table 13: Discretionary accruals in telecommunication and technology sector

The table shows that discretionary accruals of the analyzed company fall outside the acceptable range of 1% to 5%. This implies that the company in the sector may have a very possibility of engaging in creative accounting practices. Generally, the telecommunication and technology sector coefficient on operational discretionary accruals falls outside the acceptable range. The sector coefficient is the highest among all the sectors which means that the degree of earnings management is quite high and that the probability of creative accounting being practiced among the companies in the sector is high.

4. Qualifications of Audit Reports

All the sampled companies in all the sectors received unqualified audit reports from their statutory auditors. This means that according to the auditor, company's financial records and statements are fairly and appropriately presented, and in accordance with Generally Accepted Accounting Principles. This research finding is consistent with results of the study by Kariuki (2012) where she concluded that no non-compliant cases uncovered as a result of audit in Semi-Autonomous Revenue Authorities. She also confirmed that nature of the audit opinion given by auditor may be used as an indicator of strong corporate image. However, organizations engaging in creative accounting may portray a good image, and even get unqualified audit report from external auditors, yet the true financial health is wanting. This was proved in the case of Enron Corporation (Grey 2003).

The results under this section were not consistent with the results of the previous section. This means that, if the auditor's opinion was correct, either there was no creative accounting or the creative accounting present was immaterial. Karuri (2014) in his research on corruption also found out that, about 14% of the respondents admitted that they could bribe auditors so as to get an unqualified audit report. This implies that, the possibility of the audit report being faulty cannot be ruled out.

5. Conclusion

The thirty-nine firms sampled from among the listed companies were analyzed for creative accounting through earnings management on the basis of the two stage Modified Jones Model and the results recorded in the table 4.39. The ranking of the sectors on the basis of discretionary accruals as shown in table 4.39 is almost same as the ranking by Oluoch et' al (2015). The only difference is that this study ranks 10 sectors while study according to Oluoch ranks 6 sectors. Oluoch attributes the ranking to cash conversion cycle, moreover creative accounting is usually based on the cash related transactions and short term assets and liabilities. Rarely do perpetrators of creative accounting tamper with long term assets and liabilities including capital.

SECTOR	NOA/ATA	Sal-Rec/ATA	GPPE/ATA	NDA	ODA	RANK
Agricultural	-0.03047	-0.04696	0.37726	-0.03480	0.00433	9
Auto Mobile	-0.00706	-0.07062	0.08724	-0.00797	0.00091	10
Banking	0.03311	-0.15640	0.02904	0.00691	0.02620	5
Commercial	-0.02263	0.11522	0.42443	-0.01619	-0.00644	8
Construction	0.00665	0.08324	0.42160	-0.01747	0.02411	6
Energy	0.06000	0.20711	0.63082	-0.02507	0.08507	3
Insurance	-0.04642	0.06636	0.01757	0.04351	-0.08993	2
Investment	0.02707	-0.00225	0.25316	-0.00450	0.03157	4
Manufacturing	-0.11351	0.01675	0.37792	-0.10021	-0.01330	7
Telecommunication	-0.21032	0.15532	0.73093	-0.04845	-0.16187	1
Overall	-0.02143	0.01674	0.29279	-0.02104	-0.00039	

Table 14: Discretionary accruals per sector

Generally, the sector analysis showed minimal instances of creative accounting engagement by the firms listed on NSE since the overall average of the entire sample ODA coefficient based on the modified Jones Model fall within the acceptable range of 1% to 5%. However, three out of ten sectors analyzed, which translates to 30% had the ODA average outside the acceptable range and hence indicating a high probability that creative accounting could be happening within the sectors.

Telecommunication and technology sectors showed the highest probability creative accounting being practiced while automobile and accessories sector indicated the lowest likelihood of creative accounting. The other sectors that ranked high in terms of creative accounting include insurance, energy and petroleum, investment and banking. The other sectors with low level of creative accounting include agricultural, commercial and allied, manufacturing and allied, and construction and allied.

The research findings are consistent with the literature since the results of secondary data analysis confirms the suspicion raised by the study by Iraya, Mwangi and Muchoki (2015) that some degree of creative accounting is being practiced in Kenya, which in turn leads to collapse of companies. The results also confirm the observation by Katuse et al (2013) that institutional investors' focus on short-term earnings performance could pressure management into boosting reported earnings through aggressive accounting, implying that there could be some degree of its practice.

As noted in the literature review and the results of the study, the research observes that on average there was a 30% probability that the firms listed on NSE may be engaging in creative accounting through earnings management. Creative accounting was carried out across all the sectors, although some sectors indicated higher level of engagement in the practices than others.

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