

Accounting Alchemy and Reported Market-Based Financial Performance: Evidence from Publicly Quoted Firms in Sub-Saharan Africa

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Abstract

There is rareness of empirical studies on the relationship between accounting alchemy and reported market-based financial performance, particularly in sub-Saharan Africa. This paper employs a dissimilar accounting alchemy modeling evaluating Tobin's Q (a measure for reported market-based financial performance). Thus, this study seeks to (1) apply certain components of accounting alchemy in advancing a dissimilar alchemy model; (2) ascertain the effect of accounting alchemy on reported market-based financial performance of firms in sub-Saharan Africa. Data were gathered from 112 publicly quoted firms of 3 stock exchanges in sub-Saharan namely Nigeria and Kenya, South Africa from 2012-2021. Wald statistics showed that reported market-based financial performance of firm is influenced by accounting alchemy. However, it was found that accounting alchemy is more practiced in Nigeria (mean score=0.64), followed by South Africa (mean score=0.51) and lastly, Kenya (mean score=0.47). Finding calls for stringent policy recommendations for management of firm, regulatory framework of accounting, government and accounting researchers alike.

Keywords: Accounting alchemy; Accounting methods and choices; Tobin's Q; Earnings management; Jones model; Modified Jones model; sub-Saharan Africa

JEL Classification: M41, F52

1. INTRODUCTION

Broadly speaking, the term accounting alchemy portends earnings management, cosmetic and aggressive accounting, which no doubt has gained considerable thought in accounting literature. Moreover, rareness of empirical studies on the relationship between accounting alchemy and reported market-based financial performance in sub-Saharan Africa (particularly in a single study) does not exist. In the view of Barth (2010), that accounting alchemy exists is believable and unsettling. Accounting alchemy is based on the underlying dogma that business transactions

ought to reflect economic reality (real earnings) (Verrachia, 2009; Barth, 2010; Cole, 2017) as opposed to hypothetical forecasts (accrual earnings) (Burgstahler & Dichev 1997; Abdoli, Bakhitiarnezhad & Bakshi, 2012; Alhadab & Al-Own, 2017). Thus, accounting alchemy is based on real earnings as contrasting with accrual earnings (a practice by firms in sub-Saharan Africa, the world over).

Impliedly, what makes it ‘accounting alchemy’ perhaps is the transmutation demeanor of earnings elements (particularly incomes, expenses, assets) by firms, which makes reported financial statement illusory. The contention in accounting literature therefore is that rather than management, stakeholders and regulatory framework of accounting focusing on accounting estimates, their interests should be towards economic reality in financial statements (Okoro & Egberi, 2019; Okoro & Egberi, 2020).

Conceivably, the practice of accounting alchemy has made medium and large corporations disappear from the frontline of business since accounting alchemy necessitate tweaking of incomes, expenses and assets by management. Studies have shown that accounting alchemy has significant influence on firms’ reported performance (Hazarika, Karpoff & Nahata, 2012; Zunera, Farah & Muhammad, 2015). Similarly, Charfeddine, Riahi, and Omri (2014) find that accounting alchemy increases both financial and non-financial performance metrics of firms.

In sub-Saharan Africa, it is envisaged that accounting rules (the International Financial Reporting Standard) which ought to mitigate the practice of accounting alchemy by management has not produced the desirable result, as there are more firms shutting down, possibly due to diverse accounting methods and choices accorded by IFRS or over use of this financial gimmick (accounting alchemy). Therefore, as firms exit from the frontline of business, there has been a demand on the part of stakeholders and researchers alike pertaining whether accounting alchemy influences reported financial performance, particularly Tobin’s Q; a fundamental reported market-based performance dynamics of firms.

Prior studies investigate some reported financial performance metrics, which could be influenced by accounting alchemy, such as stock returns (Charfeddine, *et al*, 2014; Chen, Fang & Wang, 2016), return on assets and return on equity, book value (Akram, Hunjra, Butt & Ijaz, 2015; Okoro & Ihenyen, 2020; Okoro & Ekwueme). These financial performances metrics *inter-alia* are those resulting from internal operations of firms deprived of those that emanates from external operations of firms like Tobin’s Q among others.

In this paper, we employed a model of accounting alchemy, dissimilar from those used by prior researchers like Ardekani, Younesi and Hashemijoo (2012) in Malaysia; Moradzadehfard and Nazari (2013) in Iran; Charfeddine, Riahi, and Omri (2014) in Tunisia. Also, those relating to studies of Trejo-Pech, Weldon and Gunderson (2015) in United States; Zhu, Shan and Zhang (2015) in China; Gnyana (2016) in India; and Alhadab and Al-Own (2017) among some European countries

In fact, aside the widely used accounting alchemy models in literature, our advanced accounting alchemy model infuses change in earnings, interest and extraordinary items (before) and profits (after tax) as corrective measures to account for forecast error linked with accounting number; this view is based on the suggestions of Moradzadehfard and Nazari (2013). Consequently, this study attempts to examine the relationship between accounting alchemy and

reported market-based financial performance of firms in sub-Saharan Africa; this study proposes two puzzles: (1) What are the components of accounting alchemy that are applies in advancing a dissimilar alchemy model? (2) Does accounting alchemy influences reported market-based financial performance of firms?

2. LITERATURE REVIEW

The theoretical framework is hinged on utilitarianism theory advocated by Kant (1965). The theory described how the ultimate utility of stakeholders can be maximized by management activities. Utilitarianism can be achieved in the consequentialist setting where the ends justify the means (Masten, 2012). There are two variants of utilitarianism: rule-utilitarianism (maximization of utility of stakeholders with respect to actions to rules); and *second* act-utilitarianism, (probable rules which promote optimum utility due to management activities) (Audi, 2007).

The relevance of this paradigm to the study is that managements are expected to utilize accounting rules (accounting methods and choices) to maximize the utility of stakeholders such that their activities or actions (disclosure in financial statements) conform to generally accepted accounting standards (GAAP). Rule-utilitarianism suggests that management should assiduously follow accounting rules (methods and choices) in financial statement disclosure.

Accordingly, rule-utilitarianism explains that when accounting methods and choices are persistently used, management will be confined in their actions not to use financial gimmicks (accounting alchemy) detrimental to the shareholders (Chonko, 2012). No doubt, management may explore conflicting rules and use them to their advantage but which may be detrimental to the shareholders; this perhaps gives rise to the practice of accounting alchemy.

Reported Financial Performance

Reported financial performance denotes the benefit stemming the firm shares which are disclosed in financial statements (Imasuen, Okoro & Yahaya, 2022; Okoro & Ekwueme, 2018; Sinebe & Okoro, 2023). To measure reported financial performance (RFP), Charfeddine, *et al* (2014) used stock returns and Chen, *et al* (2016) and Akram, Hunjra, Butt and Ijaz (2015), return on assets and return on equity. Likewise, prior studies assessed RFP using profitability ratio such as dividends (Hsu & Wen, 2015; Dobre, Brad & Ciobanu, 2015). Noteworthy is the fact that the reported financial performance metrics employed by prior researchers are majorly used for assessing the internal operations of firms devoid of reported market-based financial performance metric like Tobin's Q.

Herly and Sisnuhadi (2011) noted that useful RFP metrics of firms should not only look at internal performance metrics only but also external metrics. Generally, RFP of firms can be ascertained via financial accounting ratios. Accounting ratios are useful performance tools when comparing meaningful information either for same firm or firms in similar industry (Kabayeh, Nu'aimat & Dahmash, 2012; Ososuakpor & Okoro, 2023; Odiri, Aruoren & Okoro, 2021). Thus, RFP is the hub of strategic financial management (Al-Matari, Al-Swidi & Fadzil, 2014;

Okerekeoti & Okoro, 2021; Okoro & Ekwueme, 2020; Okoro & Egbunike, 2017). Accounting alchemy and RFP studies are dependent on accounting-based metrics; however, there are few empirical studies that adopted accounting-based or market-based metrics.

Market-based metrics are generally seen as an effective metrics of assessing RFP compared to accounting-based metrics, since accounting-based metrics indicate performance linked to a short-term in prior years of an entity. Moreover, stakeholders are interested in RFP metrics since they show the rate of returns on investments of shareholders (Al-Matarneh, 2009). Kapopoulos and Lazaretou (2007) mauled accounting-based metrics of RFP for its backward-looking and its partial estimation of future event in the spheres of depreciation/amortization.

The market-based metrics for assessing RFP are characterised by its forward-looking component and reflection of expectations of stakeholders regarding firms' future performance, which is based on either prior or current performance (Wahla, Shah & Hussain, 2012). Studies have shown that accounting-based metrics of RFP such as return on assets, equity, earnings among others are used as short-term financial performance metrics while reported market-based performance metrics as a representation of future long-term performance (Al-Matari, Al-Swidi & Fadzil, 2014). In view of the aforementioned, this study used Tobin's Q (a market-based performance metric). In accounting literature, there is no consensus (particularly in sub-Saharan Africa) as to whether accounting alchemy influences Tobin's Q.

Accounting Methods and Choices as Underpinning of Accounting Alchemy

In broad sense, accounting methods and choices are construed to encompass the choice of adopting specific accounting technique in areas of intangible assets capitalization, change in expenditure capitalization policy, revenue recognition, among others. On the other hand, timing has two magnitudes; *first*, management has at their discretion to time when an event is recorded in financial statement(e.g. when bad debts or impaired assets are written off); *second*, timing of transactions that influence the reporting earnings of firms. These methods and choices no doubt, reinforce accounting alchemy.

Moreover, accounting methods and choices have been used to assess if a firm uses income increasing or decreasing reporting methods in aspect of valuation of inventories, depreciation and capitalization of expenses and interests (Watts & Zimmerman, 1986; Fields, Lys & Vincent, 2001). Prior studies have shown that entities capitalizing research and development are more extremely leveraged, smaller, less profitable and closer to dividend confines than those choosing to expense them (Daley & Vigeland, 1983; Aboody & Lev, 1998). Impliedly, firms that chose to capitalize research and development for instance, appears fiscally stronger and intensifies payment of dividends.

Similarly, Beatty, *et.al* (2002) showed that firms tend to realize more securities gains and less securities losses to alter small decline in earnings to small reported earnings increases. Also, Bartov (1993); Herrmann, Inoue and Thomas (2003; Hand, (1989); Dechow and Sloan (1991); Mande and File (2000) found that firms use accounting alchemy to control short-term earnings due to the diverse accounting methods and choices at their disposal.

Several studies investigated whether diverse accounting methods and choices used by firms relate to income increasing or decreasing reporting (Ayers, Jiang & Yeung, 2006; Bedard, Hoitash, Hoitash & Westermann, 2012; Elshafie & Nyadroh, 2014; Gnyana, 2016). Perhaps, it is the diverse accounting methods and choices that make accounting alchemy thrive among firms. In order to fulfill the purpose of the research theme, we hypothesized that:

Hypothesis: Accounting alchemy has no significant and positive influence on reported market-based financial performance of publicly quoted firms.

3. MATERIALS AND METHODS

Population and Sample

The study population consist all publicly quoted consumer and industrial goods firms on the stock exchanges in sub-Saharan Africa – Nigeria, South Africa, and Kenya. In Nigeria, there were approximately 41 consumer and industrial goods firms (The Nigerian Stock Exchange, 2021), 23 in Kenya(The Nairobi Securities Exchange, 2021), and 77 in South Africa (The Johannesburg Stock Exchange, 2021), resulting to 141 consumer and industrial goods firms.

By employing the stratified random sampling technique, the most viable and robust consumer and industrial goods firms in each regions of sub-Saharan Africa were selected. Following the stratified random sampling technique, judgmental sampling was used in selecting the numbers of firms from each stratum (sectors) of sub-Saharan Africa. The judgmental sampling became imperative at this stage given that some firms in sub-Saharan Africa do not have all the relevant dataset required for this study. Consequently, firms whose required data are incomplete were eliminated from the study sample, resulting to a sample size of 112 firms (Nigeria - 33, South Africa – 61, and Kenya - 18).

Variables Description and Model Specification

This study employs five variables, which in part, constitute certain components of existing accounting alchemy models, *i.e.* net incomes, earnings, interest and taxes (before), cash flow from operations, total assets and revenues and one variable of reported market-based performance, Tobin's Q.

Interestingly, most studies have employed these components to estimate accounting alchemy model (see Jones, 1991; Dechow, *et al*, 1995;Ardekani, *et al*, 2012; Trejo-Pech, *et al* 2015; Gnyana; 2016; Pranesh, 2017). In advancing a dissimilar accounting alchemy model, we adapted the models of Jones (1991); and Dechow, *et al* (1995) as follow:

Jones (1991) Model:

$$VTA_i = NI_i - CFO_i \quad (eq. 1)$$

VTA_i = Aggregate accruals for firm i ; NI_i = Net income for firm i ; CFO_i = Cash flows from operations for firm i

Deschow, *et al* (1995) Model:

$$ACA_i = EBIT_i - CFO_i \quad (eq. 2)$$

ACA_i = Yearly current accruals for firm i ; $EBIT_i$ = Earnings and extraordinary (before) items for firm i ; CFO_i =Cash from operations for firm i . Implicitly, Jones (1991) model is hinged on the aggregate accrual (variation between net income and cash flow from operation). Equation (1) is similar with the one used by extant studies (Teoh, *et al*, 1998; Xie, 2001; Bartov, Gul & Tsui, 2000; Ayers, Jiang & Yeung, 2006).

Deschow, *et al* (1995) model hinges on yearly current accruals (variation between earnings, interest and tax (before) and cash from operation). Equation (2) is likened to the one used by extant studies (Keung & Shih, 2014; Zunera, Farah & Muhammad, 2015; Dobre, Brad & Ciobanu, 2015; and Gnyana, 2016). Given the standpoints of both accounting alchemy models of Jones (1991); and Deschow, *et.al*(1995), we advanced a dissimilar model of accounting alchemy as follow:

$$AA_{it} = \frac{NI_{it} - CFO_{it}}{TA_{it}} + \frac{EBIT_{it} - CFO_{it}}{REV_{it}} \quad (eq. 3)$$

AA =Accounting alchemy, REV =Revenue; TA =Total assets. Given equation 3, we estimated accounting alchemy model as as follows:

$$AA_{it} = \frac{REV_{it}(NI_{it} - CFO_{it}) + TA_{it}(EBIT_{it} - CFO_{it})}{TA_{it}(REV_{it})} \quad (eq. 4)$$

Equation (5) is specified to capture the relationship between accounting alchemy and reported market-based financial performance.

$$TobinsQ_{it} = f\left\{\frac{REV_{it}(NI_{it} - CFO_{it}) + TA_{it}(EBIT_{it} - CFO_{it})}{TA_{it}(REV_{it})}\right\} \quad (eq. 5)$$

Equation 5 is further represented in equation 6 as follows:

$$TobinsQ_{it} = \alpha_0 + \beta_1 AA_{it} + \epsilon_{it} \quad (eq. 6)$$

Moradzadehfard and Nazari (2013) posit that there are hypothetical forecast errors linked with accounting numbers. Thus, to correct the hypothetical forecast errors linked with accounting numbers, we introduced change in earnings, interest and tax (before) ($\Delta EBIT$) and change in net profit (after tax) ($\Delta NPAT$). $\Delta EBIT$ and $\Delta NPAT$ have been used by Riley (2007); Gong, Li and Xie (2008); and Gramlich and Sorensen (2010).

Consequently, our accounting alchemy model provides corrective measures to account for hypothetical forecast errors linked with accounting numbers. Given this framework, the composite accounting alchemy model is expressed as equation 7:

$$TobinsQ_{it} = \alpha_0 + \beta_1 AA_{it} + \beta_2 \Delta EBIT_{it} + \beta_3 \Delta NPAT_{it} + \epsilon_{it} \quad eq. 7$$

Tobin's Q is a market-based RFP metric, which connotes the market value to replacement costs of firms' assets (percentage). The components of accounting alchemy model (net income, earnings before interests and tax, cash flows from operation, total assets and revenues) and metrics for correction of hypothetical forecast errors (change in earnings before interest and tax and change in net income), are expressed in currencies. Hence, we used the logarithm form of these variables to avoid scaling problems, since Tobin's Q is expressed in percentage. The data were collected and computed from the Stock Exchange Factbooks, Yearly Accounts and internet webpages of the firms. The study period is during 2012-2021 and data obtained were analyzed using descriptive and inferential statistical tools.

Data Analysis

In this study, three data analyses techniques were used - descriptive, correlation, and multiple regressions (ordinary least square, fixed and random effects). The descriptive analysis depicts the nature of variables among firms in sub-Saharan Africa, while correlation analysis ascertains the relationship among variables in accounting alchemy model and the presence or absence of multi-colinearity among pairs of explanatory variables. Gujarati (2003) suggests that correlation coefficient that exceeds 0.8 indicates the presence of multi-colinearity and if otherwise, does not exist.

Multiple regressions estimation technique was used in assessing the influence of accounting alchemy on reported market-based financial performance. The OLS is further substantiated with fixed and random effects due to bias associated with OLS (Nachmias & Nachmias, 2009). Nonetheless, fixed and random effects model via the use of Hausman specification test was used in assessing the model that is more efficient while the Wald statistics was used in validating the study hypothesis.

4. RESULTS AND DISCUSSION

Descriptive Analysis

The descriptive analysis showed that the average accounting alchemy (AA) of the consumer and industrial goods firms in each sub-Saharan Africa countries are around 0.64 (Nigeria), 0.51 (South Africa) and 0.47 (Kenya) with the highest score of 62.72 (Kenya). The lowest score is zero (0); this is expected since $\Delta EBIT$ and $\Delta NPAT$ are computed on the basis $EBIT_t - EBIT_{t-1}$ divided by $EBIT_{t-1}$ while $NPAT_t - NPAT_{t-1}$ divided by $NPAT_{t-1}$.

The above results connote that average AA is about 64% (Nigeria), 51% (South Africa) and 47% (Kenya) with the highest AA of 6,272%. However, the AA among of the consumer and industrial goods firms in sub-Saharan Africa are considered very low. The standard deviation values

established that the firms in sub-Saharan Africa are not too far from each other. The detailed results are presented in Table 1.

Table 1: Summary of descriptive statistics

Variables	Minimum	Maximum	Mean	Std. Deviation
Tobin's Q(Nigeria)	1.38	11.78	2.18	1.98
Δ EBIT(Nigeria)	0	15.49	-0.01	2.05
Δ NPAT(Nigeria)	0	43.65	0.03	4.26
AA(Nigeria)	-77.48	37.26	0.64	5.56
Tobin's Q(South Africa)	0.69	23.57	2.92	3.96
Δ EBIT(South Africa)	0	1.46	0.03	0.57
Δ NPAT(South Africa)	0	7.23	-9.04	8.08
AA(South Africa)	-60.57	62.72	0.51	2.81
Tobin's Q(Kenya)	0.53	9.12	1.81	2.02
Δ EBIT(Kenya)	0	6.39	0.11	1.26
Δ NPAT(Kenya)	0	3.29	-0.60	2.76
AA(Kenya)	-114.03	37.3	0.47	2.95

Source: Compiled by the Researchers (2024)

Correlation Analysis

The correlation results revealed that the reported market-based performance metric (Tobin's Q) positively correlates to the three variables; Δ EBIT (0.057), Δ NPAT (0.021) and AA (0.195). Besides, Δ NPAT negatively correlates with Δ EBIT. Also, no two (2) pairs of explanatory variables are perfectly related since none of the correlation coefficients exceeded 0.8 as suggested by Gujarati (2003). Hence, there is nonexistence of multicollinearity among the pairs of the explanatory variables of the study (see Table 2).

Table 2: Correlation matrix

Variables	Tobin's Q	Δ EBIT	Δ NPAT	AA
Tobin's Q	1.000			
Δ EBIT	0.057	1.000		
Δ NPAT	0.021	-0.044	1.000	
AA	0.195	0.053	0.212	1.000

Source: Compiled by the Researchers (2024)

Analysis of Ordinary Least Square (OLS), Fixed Effect (FE) and Random Effect (RE)

The OLS result revealed that AA is highly significant at one per cent level in explaining Tobin's Q; this connotes that AA has larger beta coefficient in aggregate terms than Δ EBIT and Δ NPAT. The coefficients of the OLS and RE, for AA are 0.0377 and 0.0377 respectively; this

suggests that when consumer and industrial goods firms in sub-Saharan Africa engage in accounting alchemy, it will lead to approximately 37.7% change in Tobin's Q.

Besides, AA has the greatest beta coefficient for FE; the beta coefficient for FE is 0.0372 but both FE and RE are significant at 1% levels. This result is similar to the OLS and FE with approximately 37.72% (but slight) change accounting alchemy may impose on Tobin's Q. Furthermore, the t-test results of AA are 3.34, 3.27 and 3.34, Δ EBIT -2.31, -2.32 and -2.31 while Δ NPAT 2.36, 2.44 and 2.36 for OLS, FE and RE respectively. Moreover, the t-test result confirms that AA, Δ EBIT and Δ NPAT are significant in explaining the variation in reported market-based financial performance. Nevertheless, the R^2 is 0.7237 for OLS, which is greater than FE and RE; impliedly, AA explained about 72.4% variation in Tobin's Q. The f-ratio is 13.77 (p-value=0.000<0.05) which is significant, providing evidence that there is a positive relationship between accounting alchemy and reported market-based financial performance (Tobin's Q) in sub-Saharan Africa (see Table 3).

Table 3: OLS, Fixed and Random Effects Results

Estimator	OLS		FE		RE	
Variable	Coef.	Prob.	Coef.	Prob.	Coef.	Prob.
AA	0.0377*	0.001	0.0372*	0.001	0.0377*	0.001
	(3.34)		(3.27)		(3.34)	
Δ EBIT	-0.0374	0.754	-0.0383	0.751	-0.0374	0.754
	(-2.31)		(-2.32)		(-2.31)	
Δ NPAT	-0.0013*	0.719	0.0017	0.658	-0.0013*	0.718
	(2.36)		(2.44)		(2.36)	
R^2	0.7237					
R^2 Adjusted	0.5322					
F-value	13.77					
F-Probability.	0.000					
R^2 (within)			0.7064		0.7048	
R^2 (between)			0.5592		0.6044	
R^2 (overall)			0.7221		0.7237	

Source: Compiled by the Researchers (2024)

Hypothesis Testing

The Wald statistic is 11.30 with F-Probability of 0.0102, indicating a rejection of the null hypothesis and an acceptance of the alternate hypothesis that accounting alchemy has significant influence on reported market-based financial performance of firms (see Table 4).

Table 4: Wald Statistics

Wald Ch ²	4.17
Prob. Ch ²	0.1243
Hausman	Probability > Chi ² = 0.155

Source: Compiled by the Researchers (2024)

5. DISCUSSION

The practice of accounting alchemy has made significant numbers of firms no longer a going concern. As management engage in accounting alchemy, incomes, expenses and assets are manipulated; thus, the elements of financial statement no longer reflect real performance of the business operations. The aim for which management employ accounting alchemy is to portray a fictitious picture or to depict a good fortune of the financial positions of firms. Firms realize this by exploring loopholes in the accounting methods and choices, which are accorded by accounting regulations.

In fact, the debate in accounting literature is that financial statement elements should as much as possible reflect real earnings (Verrachia, 2009; Barth, 2010; Cole, 2017) rather than hypothetical earnings (Abdoli, *et al*, 2012; Alhadab & Al-Own, 2017), since hypothetical earnings are believed to mislead both existing and potential investors in their investment decisions.

Quite a number of researches have shown that accounting alchemy influences diverse reported financial performance of firms (Pranesh, 2017; Alhadab & Al-Own, 2017; Farah & Muhammad, 2015; Charfeddine, *et al*, 2014); however, whether this is the case for reported market-based financial performance (particularly Tobin's Q), has not yet been established in accounting literature. A dissimilar accounting alchemy model was developed to resolve this vacuum in literature. *First* finding shows that reported market-based financial performance positively correlates to accounting alchemy, changes in earnings before interest and tax and net profit after tax.

The finding agrees in part with studies done by Moradzadehfard and Nazari (2013) and Pranesh (2017). Contrarily, Ardekani, *et al* (2012) concludes that accounting alchemy negatively correlates with reported financial performance. The divergence in findings is perhaps due to variations in reporting framework of firms in their financial statement periods. Again, the t-test result showed that changes in earnings, interests and tax (before) and net profit(after tax) confirmed the proposition that these metrics are good indicators for correcting hypothetical or management forecast error (accrual earnings) linked with accounting numbers. Again, the descriptive result showed that accounting alchemy of the industrial goods firms in sub-Saharan Africa are considered very low.

Second, the OLS result revealed a positive relationship between accounting alchemy and reported market-based financial performance (Tobin's Q) of publicly quoted firms in sub-Saharan Africa. *Third*, the Wald statistic offered a strong support of accepting the alternate

hypothesis that accounting alchemy has significant influence on reported market-based financial performance of publicly quoted firms in sub-Saharan Africa.

Akram, *et.al* (2015) and Hazarika, *et.al* (2012) confirm this finding with similar result in their studies. This is quite realistic as market-based financial performance metrics are one of the most viable indicators for assessing firms' potency by investors. Moreover, Stock Exchanges in the world are desirous of taking the frontline in the global market space; this is attainable if their financial position portrays good fortunes to attract both local and international investors.

Contrarily, the study by Akram, *et al* (2015) in India construction and material industry provides diverse finding alluding that accounting alchemy has an insignificant connection with reported financial performance. Most likely, the divergence in results could be attributable to the study focus, as construction and material firms are not easily prone to use accounting alchemy. This study contributes to knowledge by filling the lacuna in the accounting literature on the relationship between accounting alchemy and reported market-based financial performance of firms in sub-Saharan Africa.

6. CONCLUSION

This study seeks to (1) apply certain components of accounting alchemy in advancing a dissimilar accounting alchemy model; and (2) ascertain the effect of accounting alchemy on reported market-based financial performance (Tobin's Q) of firms in sub-Saharan Africa. A total of 112 consumer and industrial goods firms were sampled from Nigeria, South Africa and Kenya from 2012-2021. Findings showed that accounting alchemy positively and significantly influence reported market-based financial performance of firms. Moreover, we found accounting alchemy to be practiced more by Nigerian consumer and industrial goods firms (64%), South Africa (51%) and Kenya (47%).

This implies that reported market-based financial performance of consumer and industrial goods firms in sub-Saharan Africa are distorted by accounting alchemy; hence may possibly affect the decision choices of both existing and potential investors in stock exchanges of sub-Saharan Africa. To decrease the use of accounting alchemy, the regulatory framework of accounting in sub-Saharan Africa should be emboldened by their governments to design a well-structured framework of accounting regulations (complementing existing regulations) that could possibly put all forms of alchemies under close lens. A well-structured framework of accounting regulations are needed in order to prevent misleading investments decisions by investors. A further study on the relationship between accounting alchemy and firms' liquidity is vital for future researchers in accounting.

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