Firm Life Cycle and Earnings Management Practices of Quoted Manufacturing Companies in Nigeria

Bello, Bilikis Modupeola

Department of Accounting, University of Port Harcourt, Port Harcourt, Nigeria
E-mail: bilikismbello@gmail.com, Tel.: +234(0)8038707351

Abstract
The aim of the study is to examine the relationship between firm life cycle and earnings management behaviour of quoted companies in Nigeria. The study employs ex-post causal research design for the study. The sample for this study consist of 30 manufacturing companies quoted on the Nigerian Stock exchange with data extracted from the annual reports and accounts for the period: 2009-2018. Regression analysis was conducted and the findings of this study revealed that introductory life cycle stage does not significantly affects earnings management behavior of quoted firms in Nigeria. However, it was found that growth, mature and decline life cycle stages significantly affect earnings management behavior of quoted firms in Nigeria. Therefore, study recommends the need for effective corporate monitoring so as to discourage earnings management at all stages of the firm's life cycle.

1. Introduction

Earnings management is a growing issue of concern, threatening the credibility of both the accounting and auditing functions. While the problem of earnings management cannot be regarded as new, it continues to be a key issue in accounting research. The need to control the wide-spread act of earnings management has seen the emergence of several perspectives to the issue. This study identifies a life cycle perspective in unravelling the evolution of earnings management practices in firms. This approach is becoming quite needed because the emphasis on ways to mitigate earnings management practices in firms have largely been very inclusive and has tended to create more complexity as stakeholders attempt to find procedures and mechanisms to control corporate proclivity for earnings to be managed. The life cycle theory of the firm (Mueller 1972) is concerned with how a firm grows, matures, and declines. In sum, life cycle provides an alternative economic framework in which to study firms.

Based on the activities that firms focus on in each stage, the firm life cycle theory can provide some theoretical baselines regarding what the earnings management behavior of firms would be. For example, going by this premise, a number of scholars (Tofigh, 2016) anticipate that firms in the introduction stage are not likely to engage in real-activities based earnings management to avoid reporting losses because they are not likely to have much discretion over their spending so as to engage in discretionary cuts. On the demand-side as well, the providers of capital are likely to expect firms in the introduction stage to report losses which likely dampens the incentive to engage in real-activities based earnings management to achieve earnings benchmarks. However, firms in the growth and mature stages are likely to have the ability and the incentive to engage in real-activities based earnings management to achieve earnings benchmarks. Thus it appears that firms in the introduction stage are not likely to engage in real-activities based earnings management to avoid reporting losses; and firms in the growth and mature stages are likely to engage in real-activity based earnings management to achieve earnings benchmark. Firms in the growth and mature stages are also likely more efficient in using discretionary expenses to avoid reporting losses (Dehdar, 2007; Dickinson 2011; Liu 2006) and for those in the decline stages, there may also be intense pressure to smooth earnings.

Valuable insights can be derived by taking life cycle into account and thus treating a firm as a dynamic, rather than static, entity that evolves over time. In contrast to adopting a rather static view of the firm, which assumes that firm fundamentals remain fairly stable over time, the dynamic features of the life cycle concept

acknowledge that firms are constantly subject to change and provide the opportunity to track the firm along its evolutionary path. Despite its importance in the valuation process, the life cycle concept has received only limited attention in the accounting literature in Nigeria with regards to tracking the evolutionary path of earnings management and hence the focus of the study. The objective of the study is to examine the effect of firm life cycle (introductory stage, growth stage, mature stage and decline stage) on earnings management of quoted manufacturing firms in Nigeria.

2. Literature Review and Hypotheses
2.1. Earnings Management
Schipper (1989) defined earnings management as a purposeful intervention in the external financial reporting process, with the intent of obtaining some private gain (as opposed to say, merely facilitating the neutral operation of the process. Earnings management is recognized as attempts by management to influence or manipulate reported earnings by using specific accounting methods or accelerating expense or revenue transactions, or using other methods designed to influence short-term earnings (Isenmila & Afensimi, 2012.

Broadly speaking, according to Jara and Lopez (2011), earnings management can be defined as a strategy used by the management of a company to modify the firm's earnings so that the figures match a predetermined target.

2.2. Firm Life Cycle
Firm life cycle reflects the evolvement of firms that results from changes in observable and unobservable factors. In addition, some of the factors, such as a firm's strategy and its managers, are internal to the firm, others, such as the industry-wide and macro-economic environment, are external to the firm. Whereas studies in the strategy, organization and management literature have long recognized the importance of firm life cycle and have used life cycle theory to explain a firm's development and practices, only recently it has gained increased attention in the accounting literature (Drake & Martin 2015). Nevertheless, incorporating life cycle is important from an accounting perspective (Dickinson 2011).

2.3. Firm life cycle stages and Earnings Management
2.3.1. Introductory Stage
Firms in the introduction stage incur cash outflows from operating and investing activities and inflows from financing activities because those firms make early large investment funded by external stakeholders (Jensen, 1986). Their heavy investment is necessary for developing, introducing, and marketing a new product. As a result, investment in operating assets significantly increases firms working capital accruals (e.g., inventory) in the introduction stage (Liu, 2006). Together with operating cash outflows, heavy investment in working efficient on change in cash sales larger in the introduction stage. Furthermore, in this stage, firms gradually accumulate fixed assets, but their carrying amount and depreciation expense are small compared to the amounts in the growth and mature stages (Dickinson, 2011). As such, managers are not under any pressure of engaging in earnings management to report profits. Consequently, for firms in the introductory stage, the pressure to have an earnings benchmark and hence the obsession with ensuring profitable positions for the firm may not really be strong at that stage (Tofigh, 2016). Consequently, the null hypothesis is specified below;

H1: Introductory life cycle stage does not significantly affect earnings management behavior of quoted firms in Nigeria.

2.3.2. Growth Stage
In this stage, the corporate size is larger and it experiences greater boost in its sales and incomes than those enterprises in birth stage. The financial resources are further invested in productive assets and the corporate enjoys more flexibility in liquidity indices. The dividend payout ratio usually fluctuates between 10 to 50 percent in this sort of corporations. Firms in the growth stage have similar cash flow patterns to introduction firms except for cash inflows from operating activities (Dickinson, 2011: Liu, 2006). Using cash inflows generated by operating activities and funded by external stakeholders, these growth firms further expand production capacity e.g. Property, Plant and Equipment. (PP&E) to accommodate increasing customer demand.

Cohen and Zarowin (2010) showed that firms in the growth stage engage in real activity based

earnings management to just meet the earnings benchmark of avoiding losses. Consequently, the null hypothesis is specified below;

H02: Growth life cycle stage does not affect earnings management behavior of quoted firms in Nigeria.

2.3.3. Mature Stage

The entities commercial risk in the maturity stage is usually smaller than the previous stages. Given the increased stability the entities achieved in their sales departments, the mature entities have higher level of operational cash flow (OCF) (Dehdar, 2007). Firms in the mature stage have operating efficiency through increased knowledge of operations, resulting in cash inflows from operating activities. Mature firms, however, incur cash outflows from investing and financing activities due to obsolescence in investment previously made and distribution of excess funds, respectively (Jensen, 1986). Osta and Qytasy (2012) concluded that the use of discretionary accruals is present for firms in the maturity stage. Specifically, Dickinson (2011) indicate that mature firms earn positive abnormal returns suggesting that investors undervalue mature firms by not fully recognizing their performance persistence. Consequently, the null hypothesis is specified below;

H03: Mature life cycle stage does not significantly affect earnings management behavior of quoted firms in Nigeria.

2.3.4. Decline Stage

In the shake-out stage, the number of producers begins to decline. Moreover, facing declining profitability, shake-out firms either make new investment to rejuvenate the business or begin downsizing the company. Hence, the magnitudes of the coefficients on change in cash sales and PP&E are indeterminable from either cash flows or investment patterns in the shake-out stage. The opportunity to growth, if there is any, is certainly so limited in this stage, indices of profitability, liquidity, and commitment-fulfillment are on the fall and the corporate experiences intensive competitive situation, meanwhile financing cost is so greater than externa resources that the return on investment or the return on adjusted investment is mostly smaller than the financing cost (Dehdar, 2007). The commercial risk is increased by entering into the stage of decline. At this stage, the entity income is at the lowest level or even negative and the return on

investment is so small owing to omitted investment opportunities besides overall drop in the market and operating loss. The entities in the stage of decline have to tolerate more pressure compared to the entities at the other stages of the corporate lifecycle as the result of changes in business environment and new innovations (Osta and Qytasy 2012)

At this stage, the firms may face enormous pressure to manage earnings especially in the absence of new innovations. Consequently, the null hypothesis is specified below;

H04: Decline life cycle stage does not affect earnings management behavior of quoted firms in Nigeria.

2.4. Empirical Review

Tofigh (2016) examined the effect of corporate life cycle on accounting conservatism approach taken by listed corporations in the Tehran Stock Exchange. Research results show that corporations in the stage growth are more conservative than those in adolescent stage. Moreover, it is revealed that corporations in the adolescent stage are more conservative than those in decline. Corporations, in fact, accumulate the profits and hidden reserves in their decline stage by adopting conservative approach in their early lifecycle to be able to escape from bankruptcy and continue their growth by capitalizing on these profits and reserves

Moshtagh, Abbaszadehb, Nowghabic, and Nowghabi (2014) examined the effects of company's life cycle on earning quality of companies listed on the Tehran Stock Exchange. To do this study, financial information of 105 companies listed on the Tehran Stock Exchange during 2006- 2012 (735 firm-years) examined. Given a lack of consensus about the best way to measure earning quality, it measured by the Modified Jones (1995) model. The results of the study indicated that earning management is not influenced by firm's life cycle stages. Cohen and Zarowins (2010) finding showed that firms in the growth stage that engage in real-activity based earnings management to just meet the earnings benchmark of avoiding losses do not exhibit better industry-adjusted return on assets in the long-run, indicating that real-activity based earnings management in these firms is on average opportunistic.

Jenkins, Kane and Velury. (2004) investigated the relative impacts of key components of earnings change in explaining the value relevance of earnings across various life-cycle stages of the company. They investigated whether firms in various life-cycle stages take various strategic actions: change in sales was emphasized in the growth and mature stages, while in later stages, profitability was emphasized. They reported that when firms were in the growth stage, the value-relevance of change in sales is relatively greater than that of change in profitability.

Aharony, Falk and Yehuda (2006), reported that stage the explanatory power of factors based on cash flows was greater in growth and in maturity and decline stages the explanatory power of accruals-based factors is higher. Ghorbani (2006) investigated the relationship between earnings and cash flows with firm value in the context of the life cycle. His findings indicate that in the stages of growth and decline, relationship between cash flows with firm value is stronger than the relationship between profits with firm value and at maturation stage, the opposite is true.

Dehdar (2007) investigated the effect of the life cycle on the incremental explanatory power of earnings components and cash flows. His findings show that in the growth and maturation stages, valuation patterns based on earnings and accruals have more incremental explanatory power compared to the patterns based on operating. Osta and Qytasy (2012) were examined the effect of business life cycle on discretionary accruals. They finally concluded that the use of discretionary accruals is different at different stages of the life cycle; this means that use of discretionary accruals in the growth stage is more than maturity and decline stage and the use of this item in growth stage is less than decline stage.

2.5. Theoretical Framework
Firm life cycle theory
Mueller (1972) proposed a formal theory that a firm has a relatively well-defined life cycle. Mueller (1972) posits that a firm originates in an attempt to exploit an innovation involving a new product, process, marketing or organizational technique. In its initial stages, the firm invests all available resources in developing the innovation and improving its profitability. The firm's growth is likely to be slow until it has successfully sorted out teething issues and establishes a foothold in the market. Thereafter, the enterprise will grow rapidly, as it enters new markets and expands its customer base before any major competition can arise. The agency problem is either absent or not significant at these initial stages. The life cycle theory of Mueller (1972) has been adopted by several accounting researchers (Tofigh 2016; Moshtagha *et al.*, 2014; Cohen and Zarowins, 2010; Aharony *et al.*, 2006; Ghorbani, 2006; Dehdar, 2007; Osta & Qytasy, 2012 and Dickinson, 2011) as a framework for explaining the evolutionary path of earnings management and other accounting outcomes overtime.

3. Methodology
The study employs the ex-post causal research design for the study. The population of this study consisted of the total number of quoted manufacturing companies in the Nigerian Stock Exchange (NSE). A sample of 30 manufacturing companies quoted on the floor of the Nigerian Stock Exchange was used for the study. The simple random sampling procedure was employed in the selection of the sample. Secondary data, by way of annual reports and accounts of the sampled companies were used to collect data for the period 2009-2018. The effect of firm life cycle on earnings management was analysed using the panel regression estimation technique. The estimation diagnostics test such as the hausman test, serial correlation, heteroskedasticity, multicollinearity and specification test were all conducted.

Model Specification
Following the literature and theoretical framework of this study, our models focus on identifying the effect of firm life cycle on earnings management. The model for the study adopts that of Cohen and Zarowin (2010). The model for the study is specified below;

$ENMGT_{it}= f$ (Firm life cycle) ------------- (i)

Decomposing firm life cycle into the four stages [introduction, growth, mature and decline), we have;

$ENMGT_{it}= \partial_0 + \partial_1 INTRO_t + \partial_{2it} GROWTH + \partial_3 MATURE_{it} + \partial_4 DECLINE_{it} + \mu_{it}$ --------- (ii)

Where:
= *Earnings management, INTRO = Introductory stage, GROWTH= Growth stage MATURE=Mature stage, DECLINE= Decline stage*

i = ith firm
t = time period
μ_{it} = Model disturbance term

i = number of sampled cross-sectional firms, t = time period of the sampled companies.
The apriori signs are $\partial_{1} < 0$, $\partial_{2} < 0$, $\partial_{3} < 0$,

Table 3.1 Variable definition and Source

Variable	Definition	Measurement	Source	Aprori sign
ENMGT	Earnings management	Modified Jones Model	Dechow et al. (1998)	
INTRO-STAGE	Introductory Stage	Cash flow dynamics approach	Dehdar (2007)	
GRWTH-STAGE	Growth stage	,,	,,	
MAT-STAGE	Maturity Stage	,,	,,	
DECL-STAGE	Decline Stage	,,	,,	

Source: Researcher's Compilation (2019)

4. Presentation and Analysis of Result
Table 4.1. Descriptive Analysis

	Mean	Max	Min	Std. Dev.	Skewness	Kurtosis	J.B	Prob
ENMGT	-0.06934	0.986	-4.125	0.22263	-8.46964	158.092	731232.5	0.00
INTRO	0.08737	1	0	0.28258	2.92236	9.54018	2311.251	0.00
GROW	0.15534	1	0	0.36248	1.903	4.62140	514.151	0.00
MAT	0.54368	1	0	0.49843	-0.17543	1.03077	120.1951	0.00
DEC	0.04160	1	0	0.19983	4.59094	22.0767	13465.56	0.00

Source: Researcher's compilation (2019).

Table 4.1 shows the descriptive statistics for the variables and as observed, the mean for ENMGT stood at -0.06934 with maximum and minimum values of 0.968 and -4.125 respectively. The descriptive statistic for the life cycle stages reveals that about 8.7% of the sample companies are in the introductory stage, 15.53% of the sampled companies are in the growth stage, 54.37% of the companies are in the mature stage and 4.1% of the companies are in the decline stage. The statistics show that companies in the introductory stage are the fewest while those in the growth stage are the highest followed by those in the mature stage. The Jacque-bera probability values for all the variables are all in excess of 0.05 which suggest the unlikely presence of outliers in the distribution and they variables follows a normal distribution pattern.

Table 4.2: Pearson Correlations Results

	INTRO	GROW	MAT	DEC	Accrual
INTRO	1				
GROW	0.04	1			
MAT	-0.33	0.074	1		
DEC	0.27	0.087	0.019	1	
ACCRUAL	-0.02	0.076	0.06	0.085	1

Source: Researcher's Compilation (2019)

Table 4.2 presents the correlation results and as observed, the correlations are examined across the corporate life cycle stages. Particularly, the study is concerned with the correlations between earnings management as measured by discretional accruals and the life cycle stages. As observed, discretionary accruals is negatively correlated with INTRO (r=-0.02) only but positively correlated with GROW (r=0.076), MAT(r=0.06) and DEC (r=0.085). However, it suffices to note that correlations are limited in terms of inferential abilities and that is because they do not necessarily imply functional causality in a strict sense.

Table 4.3. Firm Life cycle and Earnings Management Regression

Variable	Aprori Sign	Baseline Earnings Mgt Model
C	+	0.1342 (0.102) {0.1889}
INTRO	+	0.0048** (0.0026) {0.0619}
GROWTH	+	0.0962* (0.027) {0.000}
MATU	+	0.0672* (0.0283) {0.0182}
DECLINE	+	0.1034* (0.0384) {0.0073}
Model Parameters/diagnostics		
R^2 0.6624	Ramsey Reset test	0.410
Adjusted R^2 0.5705	Hausman	0.0291
F-statistic 3.944		
Prob(F-stat) 0.000	Mean VIF	4.0952
Durbin-Watson 1.9		
	Period Hetero.Test	0.112
	Cross-section Hetero.Test	0.709
	Peseran CD for serial correlation	0.483

Source: Researcher's compilation (2019)

Table 4.3 show the regression results examining the relationship between firm life cycle and earnings management. The white adjusted standard errors were employed to control for potential heteroskedasticity in the estimation and hence the estimation results are free from heteroskedasticity while the Cochrane Orcutt autoregressive (AR) procedure was employed to correct for serial correlations where it is detected. The Hausman test statistic with Chi-square value $\chi^2 = 11.67$ and a p-value = 0.0291, indicates that the Fixed Effect is the preferred model to the random effects. Hence the FE estimation results are reported for the analysis in the study. Both panel period heteroskedasticity [p=0.112] and cross-sectional heteroskedasticity [p=0.709] was examined and the estimations were found to be free from such. The Peseran cross-dependence test [p=0.483] was employed to confirm the threat of the serial correlation in the errors and the statistic reveals the absence of cross-section dependence in the residuals. The R^2 using discretionary accruals baseline data for

earnings management is 66.24% with the F-stat of 3.994 (p-value = 0.00) which is significant at 5% and suggest that the hypothesis of a significant linear relationship between the dependent and independent variables cannot be rejected. It is also indicative of the joint statistical significance of the model.

The analysis of coefficients reveals that INTRO-Stage has a positive (0.0048) effect on earnings management though not statistically significant at 5% (p=0.0619). Going by the features of start-ups (firms in the introductory stage), the life cycle perspective posits such firms may not engage in any significant earnings management activities because managers are not under any pressure of engaging in earnings management to report profits. This is in agreement with Tofigh, 2016 that for firms in the introductory stage, the pressure to have an earnings benchmark and hence the obsession with ensuring profitable positions for the firm may not really be strong at this stage. Consequently, the study accepts H1: Introductory life cycle stage does not significantly affect earnings management behavior of quoted firms in Nigeria.

The effect of GROWTH-stage is statistically significant at 5% (p=0.000) though with a positive coefficient (0.0962). The result implies that the presence of significant earnings management activity at this stage. Hence it appears that manipulation to meet earnings benchmarks is more probable for those firms in the growth phases as managers of firms in this stage also have to deal with pressures to meet earnings targets. The finding is in tandem with Cohen and Zarowins (2010) and Dickinson (2011). Consequently, the study rejects H_{02}: Growth life cycle stage does not significantly affect earnings management behavior of quoted firms in Nigeria.

MATURITY-Stage has a positive effect (0.0672) on earnings management and also statistically significant (p=0.0182) at 5%. Thus at this stage of the corporate life cycle, the presence of earnings management is also observed to be significant. Consequently, the study rejects H_{03}: Mature life cycle stage does not significantly affect earnings management behavior of quoted firms in Nigeria. The finding is in tandem with Osta and Qytasy (2012) and Dickinson (2011).

This Decline stage has a positive effect (0.1034) impact on earnings management which is statistically significant (p=0.0073) at 5%. Consequently, the study rejects H_{04}: Decline life cycle stage does not significantly affect earnings management behavior of quoted firms in Nigeria. The finding is in tandem with Dehdar, (2007).

5. Conclusion

The analytical life cycle framework provides several interesting insights into the predisposing factors or otherwise incentives for earnings management in corporations across the different life cycle stages. Findings from extant literature reveal that accounting researchers have in recent times begun to adopt the life cycle approach in investigating firms accounting outcomes and there is now is huge awareness and interest globally in investigating firm's behaviour across their evolutionary path. The findings of this study reveals that; (i) Introductory life cycle stage does not significantly affect earnings management behaviour of quoted firms in Nigeria., (ii) Growth life cycle stage significantly affect earnings management behaviour of quoted firms in Nigeria., (iii) Mature life cycle stage significantly affect earnings management behaviour of quoted firms in Nigeria and (iv) Decline life cycle stage significantly affect earnings management behaviour of quoted firms in Nigeria. The study recommends that there is the need for effective corporate monitoring of all companies irrespective of the life cycle stage of the company in order to address the challenge of managerial opportunism and earnings management. Companies must improve their internal control and corporate governance systems to help check earnings management. Also, there is need for regulatory authorities such as the Security and Exchange Commission (SEC) and the Financial Reporting Council (FRC) to also pay close attention to companies in the mature, growth and decline stages given that the findings of the study suggests that the tendency for earnings management is strong at these stages.

References

Aharony J., H Falk & N Yehuda (2006). Corporate life cycle and the value relevance of cash flow versus accrual financial information. School of

economics and Management Bolzano, Italy, Working Paper.

Cohen, D. & Zarowin, P., (2010). Accrual-based and real earnings management activities around seasoned equity offerings. *Journal of Accounting and Economics 50*(2) 2-19.

Dechow, P., Kothari, S. P. & Watts, R. (1998). The relation between earnings and cash flows. *Journal of Accounting and Economics,* 25, 133-168.

Dehdar, F. (2007) Designing and developing the best evaluation models based on accounting income and cash flow in the process of the corporate lifecycle. Retrieved from www.ssrn.com.

Dickinson, V. (2011). Cash flow patterns as a proxy for firm life cycle. *The Accounting Review 86*(6), 1969-1994.

Drake, K. D., (2015). Does firm life cycle inform the relation between book-tax differences and earnings persistence? Working Paper, University of Arizona.

Ghorbani, A. (2006). Studying the relation between Profit and Valuable Cash Flows within the Framework of the Corporate Lifecycle", M.A. thesis, Azad Islamic Univercity, Mashhad.

Isenmila, P. A. & Afensimi, E. (2012). Earnings management and ownership structure: Evidence from Nigeria. *Research Journal of Finance and Accounting, 3*(7), 24-36.

Jenkins, D. S., Kane, G. D. & Velury, U. (2004). The impact of the corporate life-cycle on the value-relevance of disaggregated earnings components. *Review of Accounting and Finance, 3: 5-20.*

Jensen, M. (1986). The agency costs of free cash flows, corporate finance, and takeovers. *American Economic Review 76*: 323-329.

Jones, J. (1991). Earnings management during import relief investigation. Journal of Accounting Research, 29:193-228.

Liu, M., (2006). Operating risk, information risk, and cost of capital. Working paper, MIT Sloan School of Management.

Moshtagh, F., R, Abbaszadehb, M, Nowghabic, & J Nowghabi (2014). An investigation of the effect of firm's life cycle stages on earning quality: Evidence from Iran. *Asian Journal of Research in Banking and Finance 4*(8) 109-122.

Mueller, D. C. (1972). A life cycle theory of the firm. *Journal of Industrial Economics*, *20* (3):199-219.

Osta, S., Qytasy, R. (2012). The firm life cycle on discretionary accruals. *Research in Financial Accounting, 11*(2) 89 -104.

Schipper, K. (1989). Commentary on earnings management. *Accounting Horizons, 3*, 91-102.

Tofigh E. (2016). The effect of corporate life cycle on the accounting conservatism. *Journal of Accounting and Management*, 2*(1) 1-11.*