Level Of Economic Development (Ed) And Advanced Management Accounting Practice (Amap)

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Abstract: The article examined the nexus between the level of economic development and the adoption of advanced management accounting practices in Nigeria by industrial manufacturing firms. The study adopted a survey research strategy, for which the opinion of 74 executive-level accounting staff of industrial manufacturing companies was sampled using a questionnaire. The responses were analysed using descriptive statistics, simple percentage, tables and ordinary least square regression methods. From the results garnered, it concluded that the level of adoption of advanced management accounting practices by manufacturing companies in Nigeria is quite low, which is attributed to the fact that manufacturing companies in the country use mostly flat methods of manufacturing. Thus, it is concluded that the level of economic development of a nation determines the nature of manufacturing technology deployed by the firms, and therefore the choice of MA methologies. The foregoing observation leads to the conclusion that the low level of adoption of advanced management accounting practice correlates with the level of economic and industrial development of Nigeria. Thus, the government must deliberately support industrial development via deliberate and targeted policies, and should strive to established technology incubation and development centres, to facilitate industrial development. All opportunities for indigenous technology development must be exploited. Finally, firms in the industrial sector should also develop and deploy strategic master plans towards acquiring and deploying improved technology to harness the gains derivable therein.

Keywords: advanced management accounting practice, economic development, industrial manufacturing companies, methologies.

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I. Introduction

Economic Development (ED) is arguably the most crucial objective that governments around the world seek to achieve. This is because attaining economic development makes it easier to accomplish all other targets, including security. Economic Development (ED) is associated with improvements in a variety of areas; such as life expectancy, literacy rates and reduction of poverty, etc. ED also ensures a conducive environment for sustainable economic and social activities to thrive. According to Haller (2012), ED involves a process that generates economic and social, quantitative and, particularly, qualitative changes, which causes the national economy to cumulatively and durably increase its real domestic product. According to Anderson, Garmise, and Holman (2013), no single definition incorporates all of the different aspects of economic development. They opined that typically economic growth could be labelled in terms of goals and are pronounced as the establishment of jobs and wealth, and the improvement of quality of life. ED is also a process that influences growth and restructuring of an economy to enhance the economic wellbeing of a community. Thus, ED involves the utilisation of the proceeds of economic growth to improve the different aspects of lives of citizens. ED does not just happen, but takes a lot of concerted effort by economic units within the country. Business corporations, no doubt, play a crucial role in bringing about economic growth. The attainment of economic growth and development to some extent depends on the efficient management and proper utilisation of resources.

One primary attribute of economic growth is the nature of the establishment of business corporations. The empirical literature documents that economic growth, which is benchmarked by general socio-economic wellbeing of citizens of a particular nation, is characterised by an increase in the level of employment as a result of the various alternative places of the usage of resources. These are created with the establishment of corporations of multiple forms with a variety of goods and services produced. This production of products and services is a function of different manufacturing, and or, business processes, from the basic to the most advanced form. However, the superior type is the most predominant in developed economies. Whereas, the primary type exists on the side-lines, but is the principal hallmark of an undeveloped economy. Therefore, the quantum of accounting information also contingent on the volume and nature of business operations.
The Institute of Chartered Accountants in England and Wales (ICAEW) (2018) stated that since the industrial revolution, managers had used accounting information to run businesses. During this period, the use of administrative coordination allowed manufacturing corporations to take advantage of advances in technology, which resulted in a period of accelerated growth in the economy. This era also saw a growing demand for, and use of, Management Accounting (MA) to enable managers to not only allocate resources more effectively, but also monitor performance both of the production process and that of employees. Thus, Management Accounting (MA) is linked to economic development by providing the information and structure necessary for effective and efficient utilisation of resources in the manufacturing processes which drives profitability in the organisation and in turn, grow the economy. Today, managers still use accounting information in similar ways to help make decisions about resource allocation, utilization, pricing and monitor employees. While, themselves being monitored through accounting reports.

Despite the abundance of experience-based evidence of the relationship between MA and ED, there is almost no empirical evidence to that effect. This point is buttressed by Sprinkle (2003), who stated in his research that there is little or no evidence that demonstrates a clear link between the use of managerial accounting information and economic growth. However, insights can be gained in examining the method of cost and management accounting with the emergence of large corporations during the industrial revolution. Thus, most research on the subject matter dwells on the relationship between management accounting and the performance of business corporations.

Furthermore, with ED, often propelled by technological advancement as earlier noted, creates very complex business processes, that often undermine the capacity of basic MA tools. These business processes that often deploy robotics and forms a complex web of business transactions along the value chain of goods and services, gives imperative for enhanced accounting data capturing and reporting processes. Also, the complex nature of online and real-time transactions and operations, has astronomically increased the quantum of account data and the resultant decision-making scenarios. It is in light of this and the dearth in the literature (research gap) that this study interrogates the relationship between economic development and the Advanced Management Accounting Practice (AMAP). In other words, is AMAP contingent on the level of a nation’s economic growth? Interrogating this question is further justified by the observation that MA contributes to optimal resource allocation. So, MA contributes to economic development via facilitating firm operational efficiency, but whether the deployment of AMAP is contingent on the level of economic deployment needs inquiry.

II. Literature Review

2.1 Level of Economic Development

According to Anderson, Garmise, and Holman (2013), no single definition incorporates all of the different aspects of economic progress. Typically, economic growth can be described in terms of objectives and are commonly described as the establishment of jobs and wealth, and the improvement of quality of life. Economic development as a process that impacts the growth and restructuring of an economy to enhance the economic wellbeing of a community. Economic development is usually associated with improvements in a variety of areas such as life expectancy, literacy rates and poverty rates. This is because the indicators are potentially the causes of economic development, rather than the consequences of specific economic improvement programs. Issues like health and education improvements have been closely associated with economic growth. However, the causality with economic development may not be apparent. Any development strategy should set restricted goals and a gradual tactic to avoid falling victim to premature load-bearing (Pritchett, Woolcock & Andrews, 2013).

As observed by an International Economic Development Council (2013) in the broadest sense, the level of economic development incorporates three significant areas: policies that the government embarks on to meet its general commercial objectives including high employment, control of inflation, and sustainable growth over time; plans and programmes to provide services including building infrastructure in terms of highways, providing electricity, telecommunication infrastructure, ports facilities, education and healthcare facilities, building and managing public parks, and providing medical access to the disadvantaged etc. and policies and programmes explicitly directed at improving the economic/business climate through specific efforts in the financing, marketing, technology transfer, neighbourhood development, business retention and expansion, real estate development and others.

Thus, Amartya (1983) opined that whereas economic development is a policy intervention endeavor, which is aimed at improving the wellbeing of people, economic growth is a phenomenon of market productivity and rise in GDP and is an attempt to distinguish Economic Development (ED) from Economic Growth (EG). However, both terminologies are used interchangeably in most literature.

The main goal of economic improvement is improving the economic wellbeing of a community through struggles that entail job establishment, job retention, tax base improvements and quality of life, as there is no general definition of economic growth, strategy, policy, or programme for achieving fruitful economic
development. Societies differ in their geographic and political strengths and weaknesses. Each municipal, therefore, will have exclusive set of challenges for economic development (Anderson et al. 2013).

While, economic growth implies an increase in total economic output, industrial development, on the other hand, involves the quality of improvements, introduction of new goods and services, mitigation of risks inherent in commercial activities and the infusion of innovation and entrepreneurship in the economy. Economic development is about placing the economy on a higher growth trajectory. Economic development does not depend on short term market forces, but more a product of long-term investments in infrastructure, innovation and new ideas, knowledge and technology transfer. Economic growth also depends on well functioning financial and social institutions, as well as, on cooperation between the public sector institutions and private-sector corporations. Economic growth requires coordinated actions and large-scale, long-horizon investment. Economic development addresses the underlying conditions essential for the microeconomic operations of the economy (Feldman, Hadjimichael, Kemeny, & Lanahan, 2014). Even though, it is possible to have economic growth without economic development, it is impossible for economic development to occur without economic growth.


On the other hand, the provision of infrastructure computed in terms gross fixed capital formation indicate a much higher level of growth in terms of absolute values. This is understandable, considering that data on infrastructure development is calculated cumulatively with annual write-offs for depreciation. Thus, in 2009, total fixed capital was valued at N49.856 trillion. This increased to N54.612 trillion and on to N69.023 trillion by 2015 before dropping to N67.931 in 2016. It recorded marginal growth in 2016 and N69.810 in 2018. From the above, we note that the rate of increase in infrastructure in the last six years has been quite low, thus witnessing only 2.79 percent in 2015 and a negative growth rate of -1.58 percent in 2016. Meanwhile, 2017 only witnessed less than one percent growth at 0.82 percent and 1.92 percent in 2018. Thus, at an estimated depreciation rate of 5 to 6 percent per annum, development in terms of infrastructure has been quite negligible in the past few years.

### 2.2 Advanced Management Accounting

In the present competitive state, where innovation is the rule of the day, product life cycles have shortened, the number of competing firms have increased as a result of globalisation which has also led to increased competition amongst these companies at an unprecedented level. These issues have necessitated the need for business corporations to look beyond the basic or traditional management accounting practices, such as product costing, standard budgeting; performance evaluation and reporting and strategic management and planning, to more advanced management accounting practices including but not limited to Total Quality Management; Just in Time; Activity Based Costing; Target Costing; Backflush Costing (Popescu & Nisulescu, 2013). According to Bogale (2013), Advanced Management Accounting Techniques (AMATs) generally involve multidimensional composite of a corporation and controlling subunits that aim to provide information for managerial decision-making and enhance the corporation’s performance. The shift to Advanced Management Accounting Practices (AMAP) is necessitated by what (Holzer and Norreklit, 1991) described as radical changes in manufacturing technology and philosophy, which combined with increased competition at the global scale had rendered traditional systems obsolete.

The adoption of these more advanced techniques does not necessarily mean that the conventional methods are abandoned, but are supplemented by them. For example, Total Quality Management (TQM) seeks to increase customer satisfaction by finding the factors that limit current performance. The practice of TQM in a manufacturing environment has produced tangible improvements in efficiency and profitability as a result of many small improvements (Institute of Chartered Accountants of India, 2013). However, to ensure the achievement of optimal results, there should be an evaluation of the performance of TQM. The same applies to other advanced methods where the adoption of one will not surpass an existing practice, but will supplement it.

However, the adoption of advanced management accounting practices to a large extent depends on the level of advancement in manufacturing processes used in the individual corporation. This is because the implementation of advanced management accounting practice requires the storage, retrieval and manipulation of relatively large amounts of data, which may not be feasible in traditional/exposed manufacturing environments (ICAI, 2013). Thus, advanced management accounting practice is best suited for situations where computer-aided manufacturing (CAM) is implemented.

In such a manufacturing facility, a computer programme stores all the usual industrial undertakings and set-up guidelines for a particular machine or bank of devices, providing the facility of changing its configuration.
in a matter of seconds using a user-interface over a keyboard; easily accommodated changes to existing arrangements and new settings. These methods of manufacturing have the added advantage that systems can store a vast amount of information on the manufacturing process, which can be studied and used for future manufacturing and business decisions.

2.3 Knowledge Gap and Hypothesis Development

Erokhin, Endovitsky, Bobryshev, Kulagina and Ivolga (2019) in their study investigated the variations in management accounting practices in Russian organisations. The authors explored the change across 54 management accounting tools split into operation, management, and strategy pillars. The survey of four categories of establishments (micro, small, medium, and large) in five zones (service, manufacturing, trade, agriculture, and tourism) was conducted in seven regions of Russia, distinguished on the level of well-performing, average, and declining. The article revealed that, during the crisis, the organisations tend to drop using many proactive sustainability-oriented management accounting tools and instead focused on achieving immediate and direct effects on sales, profits, and other performance parameters by employing less-sophisticated short-term management accounting instruments.

Hussein (2018) examined the adoption, importance and barriers to the implementation of contemporary management accounting practices (MAPs) with the aid of factor analysis, underlying variables where grouped into the main factors that contribute to MAPs. The central decision of the study was that the relative adoption of traditional management accounting practices (TMAPs) is higher than contemporary management accounting practices (CMAPs). However, companies apprehend the importance of a large amount of CMAPs. Besides, the inquiry revealed that the key barriers restraining the execution of CMAPs were the length of time it took to change the communal values and practices, the high degree of uncertainty avoidance and the high cost of implementing these advanced practices.

Agada (2018) presented a conceptual appraisal of the business case for accountants to participate in accounting for sustainable development. The paper presents a framework for sustainable growth and uses arguments from literature to recognise the function of management accountants in accounting for sustainability and employed qualitative research methodology by surveying previous empirical and conceptual research on the subject matter. The findings of the study are that although there is incredible support for an undertaking towards sustainable growth, little pragmatic evidence exists backup the function of management accountants in accounting for sustainability. Also, the availability of existing literature signifying sufficient management accounting practices is unrestricted and very slight has been done to provide the procedure that ought to expedite decision making of corporations.

Also, Egbonike, Egiolu, and Agwaramgbo (2015) examined management accounting practices in changing advanced manufacturing technology (AMT) environs. The enquiry collected data from 26 Nigerian manufacturing corporations selected from the NSE factbook and analysed using ordinary least square regression analysis, which shows a significant positive relationship between labour and capital. Accordingly, this finding indicates a shallow adoption of AMT by the firms under exploration, which is expected, given the level of growth in Nigeria and the implications for the much anticipated global competitiveness for Nigerian firms.

On his part, Bogale (2013) investigated the level of advanced management accounting practices in manufacturing firms of Ethiopia by examining the relationship between some theoretical factors that influence the usage of advanced management accounting techniques (AMATs). The paper used the Pearson correlation and cross-tabulation as methods of data analyses. The results indicated that the usage of AMATs and advanced manufacturing technology has a secure connection. Concerning the Traditional Management Accounting Techniques firms widely use, which this increased in the last five years. Due to their inconsistent management accounting atmosphere, the paper recommended that firms should use the newly developed management accounting techniques.

The existing literature considered, had focused on various circumstances that determine the use of AMATs, are the status of utilization in different industrial settings. This sets the stage for further incursions into uncharted territories. Predicated on this gap, this study considered it necessary to enquire into the interface between level of a national economy’s development and application of AMATs. This is hinged on the understanding and acceptance of the reality that industrial development status is an index for measuring economic development. Arguably therefore, a look at the nature of industries in the economic landscape of a nation is a good indicator of the level of economication development. Furthermore, the empirical reality that industrial development drives economic also gives credence to this current research direction. Therefore, it is proposed that:

**H4:** The level of economic development of a nation determines the deployment of AMATs amongst firms.
III. Materials and Methods

This research paper adopted the survey research design. Consequently, the study collected data through the issuance of questionnaires. The population of the study consisted of accounting and related staff of manufacturing companies in Rivers State. However, considering the difficulty in ascertaining the number of manufacturing companies, the purposive sampling technique was adopted. To this end, the administration of research instrument was on 74 senior and midlevel accounting staff of 8 manufacturing companies who were willing to complete the research instrument. The research instrument was designed with responses benchmarked on the country’s economic development index, viz-a-viz the use of advanced management accounting practice by companies in Nigeria. The questions seek to establish the level of economic development’s bearing on advanced management accounting practice. The collected data is analysed using descriptive and inferential statistical. The relationship between the variables of the study is functionally specified as:

3.1 Empirical Model

\[ ADMGTACT = f(LVECODEV) \]

Where:

- \( ADMGTACT \) = Advanced Management Accounting, and
- \( LVECODEV \) = Level of Economic Development

Statistically, this is stated as:

\[ ADMGTACT = A_0 + \beta_1LVECODEV + U \]

It is expected that the application of advanced management accounting practices will lead to improvement in level of economic development. Stated thus: \( \beta_1 > 0 \)

IV. Results

Based on the variables in as specified above, the data garnered is presented as analysed. Using the E-Views 9 platform.

<table>
<thead>
<tr>
<th></th>
<th>ADMGTACT</th>
<th>LVECODEV</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>2.518222</td>
<td>0.879660</td>
</tr>
<tr>
<td>Median</td>
<td>0.223144</td>
<td>0.223144</td>
</tr>
<tr>
<td>Maximum</td>
<td>9.667111</td>
<td>6.070849</td>
</tr>
<tr>
<td>Minimum</td>
<td>0.836325</td>
<td>1.003211</td>
</tr>
<tr>
<td>Std. Dev.</td>
<td>4.304784</td>
<td>2.093534</td>
</tr>
<tr>
<td>Skewness</td>
<td>0.845092</td>
<td>1.521159</td>
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<tr>
<td>Kurtosis</td>
<td>1.722292</td>
<td>3.818346</td>
</tr>
<tr>
<td>Jarque-Bera</td>
<td>13.46778</td>
<td>29.77615</td>
</tr>
<tr>
<td>Probability</td>
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<td>0.000000</td>
</tr>
<tr>
<td>Sum</td>
<td>181.3120</td>
<td>63.33552</td>
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<tr>
<td>Sum Sq. Dev.</td>
<td>1315.713</td>
<td>311.1848</td>
</tr>
<tr>
<td>Observations</td>
<td>72</td>
<td>72</td>
</tr>
</tbody>
</table>

Source: Research computational output

Table 1 shows the descriptive statistics for the variables of the study consisting of: Advance management Accounting (ADMGTACT) and Level of Economic Development (LVECODEV). From the table, we observe that advanced management accounting and level of economic development had mean values of 2.518 and 0.880 with minimum values of 0.836 and 1.003 and maximum of 9.667 and 6.071. These values implies that level of economic development has a greater variation from the mean than advanced management accounting. However, both display low levels of deviation at 4.305 and 2.094 respectively. The table also
The regression result in table 2 indicates that there is a positive relationship between the adoption of advanced management accounting practices by companies in Nigeria and the level of economic development. From the results, we observe that the coefficient of regression gave a value of 0.01423 which implies that a unit increase in the level of economic development will lead to a 0.01423 increase in the adoption of advanced management accounting practices by corporate organisations in the country. The findings further indicates the relationship between level of economic development and the adoption of advanced management accounting practices is statistically significant. This can be ascertained from the probability of t-statistic value of 0.000. The adjusted coefficient of determination (Adjusted R-Squared) gave a value of 0.2584, by implication the level of economic development accounts for about 25.84% of the variations in adoption management accounting practices in in Nigeria. Thus, the level of economic development of a nation significantly determines the deployment of advanced management accounting practices by corporate organisations.

V. Conclusion, Implications and Recommendations

This research paper scrutinised the connection between the level of economic development and the adoption of advanced management accounting practice in Nigeria. From the results garnered, it was observed that most of the firms that participated in the study did not use advanced management accounting tools, as industrial manufacturing in the country is still low and most of the existing ones use flat methods of production, which is indicative of Nigeria’s level of economic development. Thus, it is concluded that the level of economic development of a nation determines the nature of manufacturing technology deployed by the firms, and therefore the choice of MA methodologies. The foregoing observation leads to the conclusion that the low level of adoption of advanced management accounting practice correlates with the level of economic and industrial development of Nigeria.

Countries with low growth indices are often characterized by a weak industrial sector, dominated by firms with low technology. The management accounting information needs of low technology firms are easily addressed by the basic MA tools. The absence of a complex manufacturing process is easily amenable to basic MA tools. Meanwhile, advanced manufacturing systems comes with various levels of complexities, that are better amenable to advanced management accounting (AMA) tools. Therefore, for as long as a country remains undeveloped, its firms might not be able to deploy AMA methodologies. By their design, AMA methodologies are better suited for complex manufacturing processes. Thus, it is very likely that industrial manufacturing firms situated in a nation, indexed as undeveloped will find deployment of AMA techniques complicated, since the required expertise and infrastructural support may be in deficit.

The inference of this observation is that the level of economic development of a nation is mirrored in the character of its industrial sector. It is a barometer for measuring the complexity of the manufacturing technology of the firms. Industrial manufacturing development drives economic growth and vice versa. This is because, evidence abounds from the global index of countries developmental statistics, that the advanced
technology firm types are dominated in economically developed nations, while the less developed ones accounts for low technology deployment. This evidence is accentuated further by the imbalance (trade deficit) between the developed world and the developing ones. While, the later trives in primary products (with minimal value), the former dominates the market for finished products with higher returns.

A further implication is that industrial development is a vehicle that stimulates economic growth. This is because, technological deployment tilts the input-output ratio in favour of outputs, as well as value additions, with corresponding implications for global trade competitiveness and finished goods export boom, leading to favourable balance of payments.

Thus, the first necessary step towards the adoption of advanced management accounting practice in the country would have to start with the transformation of manufacturing technology used in the country. The achievement of such a feat would require input from the government through targeted incentive the manufacturing sector. The government must deliberately support industrial development via deliberate and targeted policies to change the current composition of the industrial manufacturing sector. The Country should strive to established technology incubation and development centres, to facilitate industrial development. All opportunities for indigenous technology development must be exploited, even if it means adopting the corridor principle and the technology adaption model. Firms in the industrial sector of the nation should also develop and deploy strategic master plans towards acquiring and deploying improved technology to harness the gains derivable therein. The benefits of an industrialized nation is growth and global competitiveness, with its attendant multiplier returns.

The current study has added to the body of existing knowledge on the imperative of economic development from a non-traditional prism. As the traditional measures have revolved around gross domestic product (GDP), gross national product (GNP), and per capita income. However, the basic limitations of the study is the non-use of the entire industrial base of the nation. Notwithstanding, this limitation is mitigated by the dominance of primary goods export and unfavourable balance of payments of the nation, which is indicative of the overall country-wide picture.

References


