A Multi-Discriminate Analysis of Performance – Inducing Variables: A Case of the Textile Industry in North West Nigeria, 1989-2010

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The textile industry has been germane to the industrial development of Nations. Nigeria’s industrial development has shown symptoms of retrogression. How has the textile sub-sector performed in stimulating the growth of the industrial sector? The paper assessed the role of key performance enhancing variables in the textile sub-sector and their varying effects on performance. Using simple multi-variable correlations with the help of the SPSS version 15, the paper assessed the varying roles of FDI, cotton supply, electricity supply, current assets and fixed assets on EBIT, ROI, ROS and capacity utilization. The results showed varying degrees of significance at 95% confidence level with electricity supply leading. Amongst the recommendations were that Government should increase investment in infrastructures and develop agriculture. Practitioners should build capital and effectively deploy resources.

Keywords: Analysis of performance, Inducing Variables, Textile Industry.

INTRODUCTION

The level of industrialization of a country is an indication of the level of her economic development as most of the critical value-adding processes are more in industrialization than in the production of primary products. Africa’s low level of economic development can be traced to the fact that she produces more of primary products than processed goods. This also explains why almost all the industrialized countries have attained high level of economic growth and development.

The economies of Britain, France, Germany, Italy, Spain, Japan and China witnessed rapid economic growth between the 1850’s and 1950’s which were also their periods of rapid industrial growth. Industrialization has been taken as the engine of economic growth (Adam, 2009, Ajakaiye, 2000 and Nmadu, 2006).

The industrial sector in Nigeria has performed below expectation with declining capacity utilization and low contribution to GDP. There is also poor and declining level of employment generation by the sector. More than six decades after the industrial revolution, Nigeria is yet to record any progress in her industrialization efforts. Going by the industrial indices of contribution to GDP and the manufacturing index, Nigeria has in fact retrogressed. (Gado, 2012).

To revive the industrial sector all component subsectors have to be resuscitated. The textile subsector
is an important component, as it has been found to be invaluable as a foundation subsector through import substitution and subsequently as a consolidating subsector at the export promotion era (Rodrik, 2001, Zavekas, 1979, Aremu, 2005).

This paper sets out to identify crucial variables that are capable of inducing improved performance to the textile subsector. The objective is to assess the position of these variables and to suggest ways of boosting them so as to stimulate the performance of the subsector and invariably impact positively on the entire industrial sector.

THE LITERATURE

The wellbeing of any organization is a function of the interplay of endogenous and exogenous variables. In the early part of the 19th century the exogenous factors were given prominent position. In the 21st century, however, the endogenous variables seem to take preeminent position. (Wheelan and Horner, 1995)

The theory of environment interplay in determining performance can be divided between Researchers who hold the view that the external environment is responsible to Nigeria’s industrial lack of development (Adebisi, 1987 and Aremu, 2005) and those who believe that it is the internal factors .(Chukwuma, 1985, Drucker, 2004 and Gado, 2012)

The exogenists believe that globalization, lack of sufficient Government protection, inconsistent policies, and unfriendly fiscal policies, porous borders that encourage smuggling, and unfavorable macroeconomic indices like high inflation, high exchange rate, and high interest rates are responsible for the poor performance of Nigeria’s industrial sector. (Obadan, 1998; Aremu, 2005; Osuagwu, 2006). The endogenists, on the other hand, try to show that inspite of the challenging nature of the macro environment in Nigeria, commercial entities have a chance of not only surviving, but of doing well if they can muster sufficient internal resources to confront the external challenges. They explain that the external factors are common denominators to firms and that the ability to garner internal resources makes the difference between successful organizations and failed ones. (Chikwuma, 1985, Drucker, 2004, and Gado, 2012).

Success or performance is indicated by the achievement of financial as well as strategic objectives. Success can also be shown by how an organization compares above the industry average (Thompson and Strickland, 2004). While admitting the fact that strategic objectives such as increase in market share, product innovation, improved company image and attaining least average cost also show firm performance, the attainment of these objectives is predicated on the achievement of financial objectives such as return on investment, return on sales, capacity utilization and earnings before interest and taxes. Financial objectives are more short-term than strategic objectives but when considered over a long period of time, they portray a long – term picture (Thompson and Strickland, 2004)

In view of the fact that financial performance, when examined over a long period of time, gives a long-term picture of an organization and the fact that they are measured with greater level of accuracy, researchers have resorted to adopting them instead of the strategic measures which are not that precise.


Earnings before interest and taxes were used by Onipe (2001) and Gado (2012) to indicate performance. When assessing performance management and corporate profitability, Nmadu (2005) employed return on capital employed to represent performance. Similarly, Jat (2006) used net profit as a measure of corporate performance. In this paper, return on investment, Earnings before interest and taxes (EBIT), Return on sales (ROS) and Capacity utilization (CAPUT) were employed to measure performance.

Elementary drivers of economic performance are referred to as factors of production which are physical, material, financial and human resources. The textile industry is quoted as raw material driven with cotton being a major component (UNIDO and Gherzi, 2009, and Presidential committee, 2010). Other cost determinants are power, labour, chemicals and cost of capital (Presidential Committee, 2010). A reduction in the cost of these cost drivers is capable of improving financial performance and continuous improvement in financial performance over long-term can lead to the achievement of strategic objectives.

Nigeria has shown tendencies of poor performance in the cost drivers of the textile sub-sector. The country had one of the lowest cotton yields in the world with about 230kg per hectare in 2003 in contrast with the improved global standard of 618 to 718 kgs per hectare. This explains the consistent drop in cotton production from 98,000 metric tons in 2001/2002 season to 65,000 metric tons in 2008/2009 (UNIDO and Gherzi, 2009).

Another cost lever is power supply. According to Opara (2012) Nigeria ranked lowest in both Mega Watts generated and per capita electricity among 11 Organization of petroleum exporting countries (OPEC). Nigeria also had the highest cost of power of 24cents per kilowatts in 2009 compared, for instance, with India’s 8.87 cents, South Africa’s 5 cents, Turkeys 3.65 cents and
Table 1. Pearson Correlation of Resources and Performance Variables

<table>
<thead>
<tr>
<th></th>
<th>FDI</th>
<th>COTTN</th>
<th>ELECT</th>
<th>FA</th>
<th>CA</th>
<th>EBIT</th>
<th>ROI</th>
<th>ROS</th>
<th>CAPUT</th>
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<tbody>
<tr>
<td>FDI</td>
<td>1.00</td>
<td>0.452 *</td>
<td>0.645 **</td>
<td>-0.232</td>
<td>-0.013</td>
<td>0.439 *</td>
<td>0.747 **</td>
<td>0.638 **</td>
<td>0.645 **</td>
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<td>COTTN</td>
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<td>0.955</td>
<td>0.108</td>
<td>0.022</td>
<td>0.007</td>
<td>0.009</td>
<td>0.347</td>
<td>0.755</td>
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<td>ELECT</td>
<td></td>
<td>0.772 **</td>
<td>1.00</td>
<td>0.486 *</td>
<td>0.560 **</td>
<td>0.465 *</td>
<td>-0.236</td>
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<td>0.643 **</td>
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<tr>
<td>FA</td>
<td>-0.232</td>
<td>0.475 *</td>
<td>0.486 *</td>
<td>1.00</td>
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<td>0.465 *</td>
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<tr>
<td>CA</td>
<td>-0.013</td>
<td>0.352</td>
<td>0.547 **</td>
<td>0.560 **</td>
<td>1.00</td>
<td>0.718 **</td>
<td>-0.118</td>
<td>-0.217</td>
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<tr>
<td>EBIT</td>
<td>0.439 *</td>
<td>0.764 **</td>
<td>0.827 **</td>
<td>0.465 *</td>
<td>0.718 **</td>
<td>1.00</td>
<td>0.467 *</td>
<td>0.215</td>
<td>0.098</td>
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<td>ROI</td>
<td>0.747 **</td>
<td>0.382</td>
<td>0.545 **</td>
<td>-0.236</td>
<td>0.179</td>
<td>0.467 *</td>
<td>1.00</td>
<td>0.694 **</td>
<td>0.524 **</td>
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<tr>
<td>ROS</td>
<td>0.638 **</td>
<td>0.168</td>
<td>0.211</td>
<td>-0.347</td>
<td>-0.291</td>
<td>0.426</td>
<td>0.028</td>
<td>0.336</td>
<td>0.663</td>
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<tr>
<td>CAPUT</td>
<td>0.645 **</td>
<td>0.087</td>
<td>0.070</td>
<td>-0.347</td>
<td>-0.291</td>
<td>0.426</td>
<td>0.028</td>
<td>0.336</td>
<td>0.663</td>
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* Correlation is significant at the 0.05 level (2-tailed).
** Correlation is significant at the 0.01 level (2-tailed).

Source: SPSS Computations of extracts from Company Annual Financial Statements 1989 to 2010
The SPSS analysis in Table 1 showed the following correlation coefficients.

<table>
<thead>
<tr>
<th>S/No</th>
<th>Variables</th>
<th>Dependent variable (EBIT)</th>
<th>Independent</th>
<th>Level of Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>FDI</td>
<td>0.439</td>
<td>Highly</td>
<td></td>
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<tr>
<td>2.</td>
<td>Cotton</td>
<td>0.764</td>
<td>Highly</td>
<td></td>
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<tr>
<td>3.</td>
<td>Electricity</td>
<td>0.827</td>
<td>Highly</td>
<td></td>
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<tr>
<td>4.</td>
<td>Fixed Assets</td>
<td>0.467</td>
<td>Significant</td>
<td></td>
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<tr>
<td>5.</td>
<td>Current Assets</td>
<td>0.718</td>
<td>Highly</td>
<td></td>
</tr>
</tbody>
</table>

China’s 6.04 cents (UNIDO and Gherzi, 2009). The country, therefore, performs poorly in terms of quantity generated and the cost per kilowatts generated. A combination of these translates to higher cost when considered as an input for production.

Several studies have corroborated this poor performance. In a study by George and Useni (2012) there was declining electricity power supplies to the industrial sector as against the supply going to the residential sector which was increasing. This had been shown by 83% of managers of business enterprises indicating electricity outages as a major hindrance to their businesses (Iarossi and Clarke, 2011). Relating this situation to the textile companies in North-West Nigeria, Gado and Nmadu (2012) showed a significant positive correlation between the electricity supply and the capacity utilization of the companies.

METHODOLOGY AND ANALYSIS

The study population consisted of seven surviving textile companies with a total staff population of 3250 as respondents. The Oveson (2007) formular was used to arrive at a total sample of 136 respondents. Secondary data of fixed assets, current assets, Earning, and sales were obtained from the annual reports of the textile companies, these were combined with other records of Electricity supply. Macrosoft excel was used to compute returns on sales and investment. Secondary data were collected for 22 years from 1989 to 2010 both dates inclusive.

Using simple correlation employing the Statistical Package for Social Sciences (SPSS), Version 15 independent variables of performance in the form Foreign Direct Investment (FDI), Cotton supply, Electricity supply (ELECT), Fixed Assets (FA) and Current Assets (CA) were correlated with the dependent variables of Earning before Interest and Taxes (EBIT), Return on investment (ROI), Return on Sales (ROS) and Capacity Utilization (CAPUT). The SPSS also flagged correlates that were significant at both 95% and 99% confidence levels. We settled for 95% confidence which is judged to be significant.

All the dependent variables, except fixed assets, had a highly significant correlation with EBIT which was our measure of performance. The level of Electricity supply had the highest correlation, followed by Cotton supply and FDI. Fixed assets had just a significant correlation possibly because not all the fixed assets were directly linked to performance with some of the machines in disrepair and some buildings unutilized (presidential Committee, 2009).

Foreign direct Investment is needed by the textile companies to afford them long-term financing and necessary technology. A World Bank survey of investment climate in Nigeria showed the lack of investment capital. Less than 15% of loan request including overdraft were successful and even those successful could only be used for short-term finance and requiring collateral of 160% of the loan value (Iarossi and Clarke, 2011). A study by the presidential committee, (2011) had shown overage machines and outdated technology amongst the textile companies.

RESULTS AND DISCUSSION

Insufficient and erratic Electricity supply had been an age long problem of the industrial sector in Nigeria with companies operating mostly on Generators (Obadan, 1998). Other studies even showed companies spending between 10% and 20% of their initial investment to remedy power failures (Adekinikinju, 2003) and such expenditure amounting to 2 billion Naira (Adekinikinju, 2008). Successive Governments have tried to fix the power sector to no avail. The total electricity supply of about 4,000 Mega-Watts to a population of over 167 million is grossly inadequate. At the time of writing this paper (12/04/13) the electricity supply had dropped by 1,112 Mega watts to 3,300 with indications that further drop could be expected in the coming weeks due to maintenance activities (Nebo, 2013).

Investment in current assets is necessary as this
translates to value added. Current assets in the form of materials inventory and finished goods inventory are required for sales from where profit is made. Raw materials inventories are required for the production of finished goods. Onipe (2001) had shown a significant positive correlation between current assets and EBIT. This result agreed with the work of Jat (2006) where total assets correlated positively with net profits. This could be explained by the fact that not all the fixed assets were critical to performance. Unutilized buildings and broken down machinery do not add to production. These two variables were however significantly correlated with EBIT. This result agreed with the work of Jat (2006) where total assets correlated positively with net profits. This could be explained by the fact that fixed Assets are required for production of furnished goods for sale.

Foreign direct investment had the least correlation because though it was applied as a dependent variable to performance, it could also be an independent variable to economic growth as indicated by GDP. Ojonugwa and Zakari (2013) showed FDI as a dependent variable to GDP. This probably explains the reason why Nigeria’s Campaign to attract FDI may not yield much results since economic growth attracts FDI. With claims to economic growth that do not translate to development, foreign investors are less likely to be attracted to Nigeria.

**RECOMMENDATIONS**

1. Practitioners in the textile industry should adopt innovative strategies by investing in human resource development. In the face of economic downturn, they redeploy staff to other areas instead of retrenching them.
2. Textile companies should replace outdated machines with newer ones which also make use of modern technology. Almost all the textile companies were found to be using overage machines with outdated technologies.
3. Owners of textile companies should create conducive environment to attract foreign direct investment through profitable deployment of resources.
4. Government at Federal, State, and Local Government levels should return to agriculture and concentrate on cotton cultivation to provide needed raw materials for the textile industry.
5. The Federal Government of Nigeria should increase investment in electricity infrastructure so as to increase the amount of electricity to the textile industry. Less than 5,000 Kilowatts of electricity is presently generated for a population of over 167 million people.
6. Investors in the textile sector should adopt the practice of cumulating depreciated equivalents in a fund to provide for future replacement of machines after their serviceable life periods. This will avoid the present practice of using old machines with outdated technologies.
7. Governments at all levels should implement developmental policies especially as relate to the productive sectors of the economy as economic growth has been shown to be a determinant of foreign direct investment.

**REFERENCES**


retrieved April, 2013.


Nebo C (2013). Nigeria Records 1,112 MW Drop in Electricity, Retrieved on line Friday 12/04/13 from: http://en.starafrica.com


Ojonugwa U, Zakari TO (2013). Foreign Direct Investment and


