Effect of Foreign Direct Investment Dilemma in the World Financial Markets
Integration of Ethics in Malawian Public Application of Data Envelopment Analysis

Discovering Thoughts, Inventing Future

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Effect of Foreign Direct Investment on Performance of the Central Bank In Terms of Accounting for the Period (1980-2012)

By Mohammad Naser Mousa Hamdan & Mohammad Abdulmajeed Alrgaibat

Al Albayt University, Jordan

Introduction- The foreign direct and indirect investment has aroused attention of a lot of governments, organization, companies and individuals. The argument arises over feasibility of this type of investment and the burdens and advantages resulting from it, especially in relation to motives of the foreign companies to make investment, determinants of these foreign investments and methods of organization and management in the foreign companies.

Success of any government in general or any business organization in particular in solving the economic problems or being able to achieve a certain goals is undoubtedly an indicator to quality of their decisions and rationality of their plans and policies. Achievement of the economic and social benefit to the community members is not confined to reaching a certain degree of self-sufficiency or internal social welfare, rather it can be provided through opening doors to the foreign investments.

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I. Introduction

The foreign direct and indirect investment has aroused attention of a lot of governments, organization, companies and individuals. The argument arises over feasibility of this type of investment and the burdens and advantages resulting from it, especially in relation to motives of the foreign companies to make investment, determinants of these foreign investments and methods of organization and management in the foreign companies.

Success of any government in general or any business organization in particular in solving the economic problems or being able to achieve a certain goals is undoubtedly an indicator to quality of their decisions and rationality of their plans and policies. Achievement of the economic and social benefit to the community members is not confined to reaching a certain degree of self-sufficiency or internal social welfare, rather it can be provided through opening doors to the foreign investments. This requires a country to make special decisions to select and direct these investments, the ability of a country to achieve the economic and social benefit as well as develop the suitable policies and prepare appropriate climate for these investments. Jordan has been one of the countries that has realized significance of the foreign direct investments as a key tool for correction and economic openness. To achieve desired objectives from these foreign investments, the Jordanian government have taken a lot of corrective actions, and enacted laws and legislation with the aim of providing the suitable investment climate to attract the foreign investments, in light of severe competition of the neighboring countries.

The new concept of the foreign investment emerged in the twentieth century. This concept developed greatly after the World War II; during the period between the Korean War (1950-1953) and the First Oil Crisis (1973-1974). The American investments gained the largest proportion, where most of the foreign investments were indirect. While Japan had intermediate position, where its investments in the seventies were direct, while in the eighties it tended to the indirect foreign investments. Advantages of the foreign direct investments cannot be denied. The most important advantages include the increase of competitiveness and production capacity, increase of employment opportunities, increase of foreign currencies reserves and other advantages which will be detailed in context of this research.

II. Significance of the Study

This study is significant due to the benefits gained by the developing countries by reason of these foreign investments. There are goals and motives the foreign countries seek to achieve through making foreign investments, and because of this there have been different opinions about trends of the foreign investments. There are three main opinions- the first of which absolutely supports all types of foreign investments. the second opinion completely disagrees with the foreign investments, while the third opinion supports the foreign investments but with some controls and criteria to regulate such investments and place them in the developing countries.

Further, reliance of a country on this type of investments contributes to process of economic growth, increasing incomes of a country’s imports, utilizing the modern technology, employing labor force, elimination of unemployment, and keeping up with all aspects of urban development. Also, the foreign investments contribute to increase of foreign currency flows that are added to account of the capital transactions in the balance, and through the potentials provided by companies to enter the export markets, supporting balance of payments, decreasing possibility of the financial crises and deficit in repaying the foreign debts, and increasing the national income; since the foreign investments are considered an important source of tax paid to the country by the foreign companies.
Most countries need the foreign investments since they can play a key role in development of the host country and increasing its economic growth rate. These foreign investments help a country utilize its natural resources, and contribute to development of its infrastructure like projects of energy, renewable energy, water, communications, tourism, and other vital infrastructure projects. Further they contribute to training local labor force, developing different types of industry through the variety of assets provided by them like the capital, technology, administrative abilities and skills and access to the foreign markets.

This is why this research is significant, where this point will be detailed below.

III. Objectives of the Study

The objectives of the study can be explained through the following points:

1. Identifying quality, quantity and size of the foreign investments in Jordan.
2. Identifying the factors that limit flow of the foreign direct investments in Jordan.
3. Evaluating the positive and negative effects of the foreign direct investments in Jordan.
4. Identifying the required actions to be taken by the host country to offer the suitable climate in order to attract more foreign investments and avoid their burdens.

The Bank also aims to increase its financial activity which leads to maximizing the share value in the stock market which in turn leads to maximizing wealth of the property owners. This can be achieved through maximizing the revenues or reducing the expenses, or both.

IV. Problem of the Study

After providing the significance and objectives of the study, we provide the problem of the study, which is:

To identify impact and ability of the foreign investment on profits of the Central Bank in terms of accounting for the period 1980-2012 through studying determinants of attraction of foreign investment and defining the best appropriate formulas to broaden the foreign direct investments base and attract them to Jordan.

V. Hypothesis of the Study

Main Hypothesis: is there a statistically significant effect between size of the foreign investment and net profits of the Jordanian Central Bank in terms of accounting according to the data listed in Amman Stock Exchange for the period (1980-2012).

The following sub-hypotheses branch out from the main hypothesis:

First hypothesis H0: there is no statistically significant effect for the trading volume on the net profit in the Jordanian banks according to the financial statements listed Amman Stock Exchange for the period (1980-2012).

Alternative hypothesis H1: there is statistically significant effect for the trading volume on the net profit in the Jordanian banks according to the financial statements listed Amman Stock Exchange for the period (1980-2012).

Second hypothesis H0: there is no statistically significant effect for number of subscribed shares on the net profit in the Jordanian banks according to the financial statements listed Amman Stock Exchange for the period (1980-2012).

Alternative hypothesis H1: there is a statistically significant effect for number of subscribed shares on the net profit in the Jordanian banks according to the financial statements listed Amman Stock Exchange for the period (1980-2012).

VI. Methodology of the Study

The study uses SPSS method to analyze the data listed in Amman Stock Exchange with the aim of studying effect of the dependent variables on the independent variables for the period (1980-2012).

VII. Literature

a) Arabic Studies

(Elias, 2005), “Foreign Direct Investment Structure for the period 2000” applied study in Jordan). This study deals with concepts, forms and effects of foreign direct investment, and it takes up some global development experiences (Ireland, India and China) that led to advancing their development. The study aims to use the Jordan's experience in attracting the foreign direct investment as an applied case for effect of these flow on economics of the developing countries.

The study concludes that the media has played a key role in promoting the Jordanian investment environment regionally and globally through showing advantages of the investment climate in Jordan which lead to increasing size of the foreign direct investment and continuous provision of the financial, tax and customs incentives. Further, the study concludes that the bureaucracy and the complicated governmental procedures should be eliminated. Adnan Qadoumi (2004)1 This study aims to identify size and nature of foreign direct investments (in kind) in Jordan and the factors affecting them for the period (1995-2004). The

1 Adnan Qadoumi 1 Analytical Study, the Factors Affecting the Attraction of the Foreign Direct Investments to Jordan for the period (1995-2004), Department of Financial and Banking Sciences, Faculty of Economics, University of Applied Sciences.
study examines size of the foreign direct investments (dependent variable) and their annual change rate, and define the factors affecting these investments (independent variables), and identify strength and nature of the relation between the independent variables and the dependent variable using firstly the horizontal financial analysis (trend analysis) for all variables of the study, and the statistical analysis to identify the correlation coefficient (R) to find out type and degree of the relation between the independent variables and the dependent variable as well as the coefficient of determination (R²) in order to firstly analyze effect of each independent variable on the dependent variable, and effect of all independent variables on the dependent variable, and then to measure the correlation coefficient (B) to define amount of change in the dependent variable resulting from the change in the independent variable in amount of one unit. The study concludes a set of results including: the effect of the independent variables as a whole on the size of foreign direct investment is very strong. The study provides some recommendations including: it is necessary to provide the suitable factors and investment climate in order to attract more foreign direct investments, where provision of this climate is the responsibility of the government in addition to the role of Jordan Investment Board in this regard.

Barbour (2003) *Analysis of Sources of Income of the Jordanian Commercial Banks- a standard study for the period 1980-2000* 2This study aims to define sources of income of the commercial banks in Jordan for the period 1980-2000, and identify the factors that affect determination of these sources and ways of these incomes. The study is divided into two parts: the first one is the theoretical aspect, while the second one focuses on the statistical analysis of sources of these incomes at the banks in question. The study includes 7 Jordanian banks out of 9 banks, where this study examines sources of incomes of the banks for the period 1980-2000. The study concludes that:

1. Traditional sources of incomes form the most important banks' sources of incomes and that size of these sources suit size of sources of theses incomes.
2. The profits of banks are affected by revenues of the payable interests and the size of the bank that is measured by size of deposits.
3. The liquidity size affects profits of the banks from their traditional sources.
4. Weak effect of the payable commissions, securities portfolio, number of services and liquidity size on profits of banks from non-traditional sources.

The study provides recommendations, including:

A. The Jordanian banks should diversify their investments and reduce reliance on generating revenues from the traditional sources.
B. The Jordanian banks should improve their revenues from the non-traditional sources, rely on the new quality of services, and keep pace with the banking innovations and the financial creativity to face competition.
C. To face competition, the Jordanian banks should seek to merger and increase expenses on the technological development and long-term strategic planning. (Azzam, 1994) "Determinants of Demand to the Foreign Investment in Jordanian Economy". 3

This study aims to analyze determinants of demand to the foreign investments in 1994, and examine the aspects related to the foreign investment in Jordan in 1972, how to attract this investment, and the factors that limit demands to this type of investment in Jordan. The study concludes that the gross domestic product, the political stability, local exchange rates, and the trade conditions have a great significance in attracting the foreign investments. It is also concluded that the effect of the foreign investments in developing the Jordanian economy are limited, and when the standard model is used, it is found that it has a positive effect on actual rate of the economic growth and growth of the local market in attracting the foreign investments and their flow to the Jordanian economy. It is also found that they have negative effect on the financial stability.

b) Foreign Studies

M.M. Metwally (2004)* Effect of EU. Foreign Direct Investment In the Middle East* 4, where this study analyzes the relation between the foreign investments and the economic growth & exportation on Jordan, Egypt and Oman, since most of the foreign investments in these countries come from the European Union. This study identifies effect of both the economic growth rate and interest rates on the foreign investments flow using regression equation. This study concludes that both the growth rates and interests have positive effect on the foreign investments flow, but at different degrees, and that the increased flow of the foreign capital increases the exports of goods and services to the host countries, and accordingly the domestic product. This means attracting additional foreign investments. Andrew Gilmore and Others (2003) 5 *Factors Influencing Foreign Direct Investment and

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International Joint Venture". This is a comparative study between Bahrain and Northern Ireland. It aims to identify the incentives provided and the satisfaction level as to the foreign investments from the general managers' point of view, and the reasons beyond preference of a country over another in establishing projects, whether a full or joint foreign investment. The study concludes that all projects in Bahrain are joint ventures, while in Ireland most of the projects are not joint ventures; (4) projects only are joint ventures. It also concludes that the main factors that help in flow of the foreign investments are the tax rates, infrastructure, and the political stability, which are existing in both countries in different forms. It is noted that the low wages are not one of the main factors for attracting the foreign investments and that the cultural level has no significant effect in attracting the foreign investments. Alvin & Densil (2002) 6 "Attracting Foreign Direct Investment In Developing Countries". This study identifies the efforts made by the developing countries to develop their economics with the aim of attracting the foreign investments through adopting a set of promotional procedures and activities. The researchers have designed a statistical model consisting of several explanatory factors that influence flow of the foreign investments, like interest rate, growth rate in the country, per capita income, position of balance of payments of the host country, and the culture level. The study concludes that the per capita income is considered the main factor for attracting the foreign investments, in addition to the interest rate and the cultural level. The study recommends that the developed countries should help the developing countries to increase the foreign investments.

c) Concept, objectives and forms of the foreign investment

i. Concept of foreign investment

There are many definitions for this type of foreign investments, the most important definitions given to this concept are provided by the international organizations and bodies:

a. International Money Fund (IMF) 7. IMF defines the foreign investment as "a company or an organization that makes investment in foreign projects where the investor's share is (10%) or more of the project's capital, provided such ownership has a power to influence the organization's management".

b. United Nations Conference on Trade and Development (UNCTAD): According to UNCTAD, the foreign direct investment is a type of the international investment, in which a foreign investor owns at least (10%) of the company's capital or the voting power in its Board of Directors".

c. Organization for Economic Cooperation and Development (OECD) According to OECD, the foreign direct investment is "any stable investment activity in the country of origin that has assets in the host country with the aim of investment and profits".

ii. Objectives of the Foreign Investment

1. To increase production and productivity which leads to increasing the national income and higher per capita income, and accordingly improving people's living standard.

2. To provide services to citizens and investors.

3. To provide employment opportunities and reduce unemployment.

4. To increase capital formation rates of the country.

5. To provide different specializations like technicians, administrators, and skilled labor.

6. To produce goods and services that satisfy the citizens' needs, and export the surplus which provides necessary foreign currencies to purchase machines and equipments and increase the capital formation. 8 In its policy to attract the foreign investments, the Kingdom uses various methods such as encouraging the joint ventures, or establishing economic projects fully owned by the foreign investor, and allowing the multinational corporations to open branches in the Kingdom or through allowing these companies to enter into agreements with the local companies for the purpose of being granted licenses on rights of use of a certain technology and marketing it in the local market. Further, the Kingdom provides several legislative, legal, administrative and technical incentives and facilities as well as the excellent infrastructure to attract these types of investments. This has led to establishing a lot of investment projects that have made Jordan an important center for attracting the foreign investments in the Middle East. The legal incentives an facilities represent a variety of legislation and laws that provide a suitable climate to establish the foreign investment projects. The most noticeable provisions in these law include adopting of principle of equality between the national investor and the foreign investor before the law, free movement of capital, and conformity of laws of tax and customs, as well as the free economy policy adopted by the Kingdom.

As to the administrative and technical incentives and facilities, they include providing the necessary information and data to the investors to enable them to prepare economic feasibility studies on the projects they wish to establish in Jordan, providing infrastructures and the required services to establish the investment

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8. Wikipedia "text of the Creative Commons License" 13.10.2013
projects, and providing lands and energy necessary to the investment projects and other necessary low cost facilities compared to the global prices.

Undoubtedly, the measures taken by Jordan to open doors of investments to the Arab and foreign investors are considered positive steps for attracting capitals that serve in the comprehensive economic development in the country. The "foreign investments" have been a key factor for the economic growth and boom in a number of countries like the United States, states of Western Europe, China, India, etc., and for raising and improving living standards of their citizens.  

iii. Forms of Foreign Investment

The foreign direct investments are considered the most important foreign source of funding for the host countries in developing their economies, and they have become an indicator to degree of economic openness and globalization through the multinational companies that invest through their branches worldwide and in different industrial sectors.

a. Nature of Foreign Investment

The foreign investments have become a tool to reduce the gap between size of domestic sources and requirements of economic growth. The most important definition of the foreign investment is provided by IMF which defines it as "a fixed share for the investor who resides in another country and participates in a project". According to the criterion provided by IMF, the investment is not considered direct unless the foreign investor owns 10% or more of capital of a business company and 10% of the voting rights in such company, and this share should be sufficient so that the investor can express his opinion in the Board of Directors. Also, IMF considers the foreign investor "a type of the international investment that reflects the objective of having a permanent interest in a company existing in another country". This interest shows a long relationship between the direct investor and the company, in addition that the direct investor enjoys high degree of influence in management of the company.

b. Different Forms of Foreign Direct Investment

(Wickham, 1989) argues that the foreign direct investment represents the final phase that leads to increased production capacity abroad through a branch, and granting the investors the right to seek room in managements for the purpose of having a permanent interest in the business of a company in the host country with the aim of effectively influencing the managements of the company.

According to Joffre, the current preference of the western companies including the startups at the international level is this form of foreign direct investment. This is attributed to four reasons: speed, risks, decreased capital of companies, and the necessity to overcome the big obstacles that prevent entry.

According to Bouyeure, the reasons beyond the foreign direct investment are:

1. Searching for the economic cooperation

The increased competitiveness in the international environment, where the companies are necessarily required to define the weaknesses in knowledge and skills and how to be planned rapidly. The fastest way to address these defects is formation of strategic alliances.

According to Forfa, the economic diversity may drive a client to invest in different activities and skills away from the origin domain. This technological distance shows the case of uncertainty faced by the companies.

Cooperation will lead to increasing the partner's sources through collecting the integrated skills, especially that it reduces obstacles of size and risk; and this is why it will become the best solution for companies.

2. Strategic Alliances

Strategic alliances is a form of organization-interrelations in which the competitors exert their efforts in their business in part or in whole. Alliances means the concreted projects selected by different parties, and the desire to approach toward common goals or the goals that require alliance.

Alliance is authorization of selection

The aim of the strategic alliances is mingling between the competition and cooperation, where they are difficult to manage from the third parties' point of view; various cultures and personal interests. Sensitivity of this management drives us to determine the administrative constants in the midst of permanent instability. The increased trade exchanges at the global level, the need to propose products, and the increasingly invented technical expertise which force the executive managers in the industrial and service companies to carry out the operation mechanisms that require cooperation, networks and alliances among companies.  

VIII. Inception and Establishment Conditions of the Jordanian Central Bank

The Jordanian Monetary Council, established on 20th July 1949, was responsible for the money affairs

9 Sawsanah Newspaper, 2013
11 Ibid
in the Kingdom, like issuance of currency, reservation of the sterling reserves, and investing these reserves in treasury bonds and bills issued in sterling 12. This council consisted of a chairman and four members appointed by the Council of Ministers; three English members and two Jordanian members. The principal office of the Council was in London where it designated a representative in Jordan who was called (Money Controller).

In 1957, the principal office was moved to Amman, and it was reformed to increase the Jordanian representation, where it consisted of four Jordanians including the chairman and one non-Jordanian member.

The most important decision of the new council was to maintain a principal office in London, form the investment committee, and implement instructions of the council concerning sale and purchase of the British governmental bonds and controlling the British treasury bonds owned by the council. 13

While the Jordanian Monetary Council was exercising its business, in 1951 the currency control department was established after being separated from the investment department. This department was responsible for controlling the currency affairs. Accordingly, the number of the bodies controlling the monetary affairs got increased, and thus there was a need for a comprehensive monetary policy in the Kingdom that helps in the economic growth and bloom.

The World Bank Mission that visited Jordan in 1955 to study its economic conditions was the body that indicated to the necessity of establishment of a central bank in Jordan. In 1957, the World Bank Mission published its report on the economic growth in Jordan. Though the World Bank Mission indicated to the necessity of establishment of a central bank in Jordan, it recommended to wait for a while due to lack of appropriate banking environment, lack of trained staff, and lack of sufficient and accurate statistics on the banking activity in Jordan. But in 1956, the Minister of Finance and Economy had announced that the government intended to establish a central bank in Jordan as soon as possible regardless of recommendations of the World Bank as to the delay. In 1959, Law No. (4) was issued which provided for establishment of a central bank in the Kingdom to be responsible for assurance of currency, reservation of reserves for currency stability purposes, and regulation of credits, and to work as representative of the government. In the same year, another two laws were issued; Law No (5) of 1959 on Control of Foreign Currency. 14

In 1960, the Government made the first amendment to the Central Bank Law where this amendment provided for preventing the individuals and companies from dealing with the Central Bank, and exempting the profits of the Central Bank from taxes and fees.

In 1962, the Government requested the Monetary Council to take necessary practical steps to accelerate establishment of a central bank. Accordingly, the Council sent six employees to London for the purpose of training on the banking and trade business, and it closed the Council Office in London to be located in Amman. Also, the Council decided to cancel the Investment Committee and to transfer its powers to Amman. In 1963, the Council allocated 300 thousand J.D to establish a new building to be the principal office of the central bank, and it sent 12 employees to London for training purposes. 15

On 07.09.1963, the Council of Ministers issued a decision on opening the first section of the Central Bank Law concerning formation of the independent legal personality, and the second section concerning appointment of the governor, vice-governor, board members, and their powers. 16

IX. Results

This section contains an analytical presentation of the results of the study that aims to identify effect of the foreign direct investment (trading volume and subscribed shares) on profits of the Jordanian Central Bank for the period (1980-2012). The results are presented according to the hypotheses of the study.

X. Hypotheses Testing

First hypothesis: there is no statistically significant effect at the significance level (\( \alpha \leq 0.05 \)) for trading volume on net profit of the Jordanian Central Bank according to the financial statements listed in Amman Stock Exchange for the period (1980-2012).

To test this hypothesis, the correlation coefficient between the trading volume and the net profit is measured, and the linear Regression Analysis is used to identify effect of the trading volume on the net profit in the Jordanian Central Bank. The results are provided in the tables elow.

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14 Ibid, p 35
15 Ziad Ramadan, Management of Banking Operations, the University of Jordan, Amman, 1982, p 195
Table (1): Correlation coefficient between the trading volume and the net profit

<table>
<thead>
<tr>
<th>Independent variable</th>
<th>correlation coefficient</th>
<th>Statistical significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trading volume</td>
<td>0.935</td>
<td>0.00</td>
</tr>
</tbody>
</table>

Table (1) shows that the correlation coefficient between the trading volume and the net profit is (0.935) and the statistical significance is (0.00) which is a high and statistically significant value.

Table (2): Regression analysis for the trading volume on the net profit

<table>
<thead>
<tr>
<th>Independent variable</th>
<th>Value t</th>
<th>Statistical significance t</th>
<th>B</th>
<th>R</th>
<th>R²</th>
<th>Value t</th>
<th>Statistical significance t</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trading volume</td>
<td>14.402</td>
<td>0.00</td>
<td>0.067</td>
<td>0.935</td>
<td>0.874</td>
<td>207.418</td>
<td>0.00</td>
</tr>
</tbody>
</table>

Dependent variable: net profit

Table (2) shows that there is a statistically significant effect for the trading volume on the net profit, where the value (f) is (207.418) with a statistical significance of (0.00), the value (R) is (0.935), the value (R²) is (0.874), thus the hypothesis is refused, and the alternative hypothesis is accepted to be as follows:

Second hypothesis: there is no statistically significant effect at the significance level (a ≤0.05) for number of subscribed shares on the net profit in the Jordanian Central Bank according to the financial statements listed in Amman Stock Exchange for the period (1980-2012).

To test this hypothesis, the correlation coefficient between number of subscribed shares and the net profit is measured, and the linear Regression Analysis is used to identify effect of number of subscribed shares on the net profit in the Jordanian Central Bank. The results are provided in the tables below.

Table (3): Correlation coefficient between number of subscribed shares and the net profit

<table>
<thead>
<tr>
<th>Independent variable</th>
<th>correlation coefficient</th>
<th>Statistical significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of subscribed shares</td>
<td>0.672</td>
<td>0.00</td>
</tr>
</tbody>
</table>

Table (3) shows that the correlation coefficient between number of subscribed shares and the net profit is (0.672) and the statistical significance is (0.00) which is a medium and statistically significant value.

Table (4): Regression analysis for the subscribed shares on the net profit

<table>
<thead>
<tr>
<th>Independent variable</th>
<th>Value t</th>
<th>Statistical significance t</th>
<th>B</th>
<th>R</th>
<th>R²</th>
<th>Value t</th>
<th>Statistical significance t</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of subscribed shares</td>
<td>9.444</td>
<td>0.00</td>
<td>0.153</td>
<td>0.865</td>
<td>0.748</td>
<td>89.193</td>
<td>0.00</td>
</tr>
</tbody>
</table>

Dependent variable: net profit

Table (4) shows that there is a statistically significant effect at the significance level for (a ≤0.05) for number of subscribed shares on the net profit, where the value (f) is (89.193) with a statistical significance of (0.00), the value (R) is (0.865), the value (R²) is (0.748), thus the hypothesis is refused, and the alternative hypothesis is accepted to be as follows:

"there is a statistically significant effect at the significance level (a ≤0.05) for number of subscribed shares on the net profit in the Jordanian Central Bank according to the financial statements listed in Amman Stock Exchange for the period (1980-2012).

XI. Results and Recommendations

a) Analysis Results

Through testing the hypotheses and analyzing the data, the following results are found:

1. There is an effect between the trade volume on the net profits of the Central Bank. This effect shows that when the trading volume increases, the profits of the bank increases.

2. There is an effect between number of subscribed shares and the net profits of the Central Bank. This effect shows that when the bank increases number of subscribed shares, its profits increase.

These results shows validity of the hypotheses and data used in analysis.
b) Recommendations

Upon the results found in the analysis process and the effect found between the variables, it is recommended that:

The Central Bank should increase trading transactions continuously in order to be able to increase and maximize its investments. Further, the Central Bank should increase the number of subscribed shares. All these transactions contribute to increasing investments of the Central Bank, and accordingly increasing profits of the Central Bank.

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Production Efficiency of Sugar Factory of Bangladesh: An Application of Data Envelopment Analysis

By Md. Nazmul Islam
Mawlana Bhasani Science and Technology University, Santos, Bangladesh

Abstract- Measuring the efficiency of production departments is an important part of promoting and maintaining efficient operations. Data envelopment analysis (DEA) is a linear programming-based technique which mirrors the capability of a decision making unit to attain the highest level of output from a given set of inputs. To measure the efficiency, we have considered the use of sugarcane and crushing days as input variable and the amount of sugar production as an output-variable. About 99.6 percent of variations in the output variable was explained by these explanatory input variables ($R^2 = 99.6$ percent). Applying DEA under CRS technology assumption, average production efficiency score is .97 in the sugar units. This indicates that on an average, the firms could increase their output by 3 percent with the existing level of inputs. Out of 10 sugar units, 4 units showed significant decrease in efficiency. TSM had used excess 8.90 percent sugarcane and 31.20 percent crushing days due to production inefficiency and this unit would be able to increase sugar production by 9.77 percent as compared to peer units.

Keywords: data envelopment analysis, bsfic, input/output oriented.

GJMBR - D Classification : JEL Code : M49
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Md. Nazmul Islam

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Keywords: data envelopment analysis, bsfic, input/output oriented.

1. Introduction

There is an increasing anxiety among the firms regarding the level of efficiency with which they assess the position of the compared work to their competitors. Sugar industry is one of the major agro-based industries that are playing a vital role in the rural development of our country. At present 15 sugar mills are running in producing cane-sugar in Bangladesh under direct control and supervision by BSIFIC (Bangladesh sugar and food Industries Corporation). The sugar industry provides direct employment to large number of people and indirect employment to millions. The cane-sugar industry is one of the oldest industries in Bangladesh. Near about 5.0 Million people depend on sugarcane cultivation and 16,000 labor force engaged in sugar industry (BSRI, 2004). Sugar industry is a losing concern in Bangladesh. The main problems of the sugar industry are low recovery rate, more processing loss and low sugar price and low capacity utilization. Efficiency of the sugar mills are decreasing year after year. The purpose of this paper is to evaluate the efficiency of cane-sugar industry of Bangladesh. This paper describes the use of a linear programming technique called data envelopment analysis (DEA) to measure the overall efficiency of decision-making units (DMUs). White sugar is produced from sugarcane through sugar mills. In Bangladesh, Sugarcane based sugar factories are directly controlled by the Government of Bangladesh since the independent of Bangladesh. Sugar production is not sufficient and only about 2 lack metric tons of sugar is produced from the sugarcane and about 12 lack metric tons of sugar is supplied by private sugar producing mills where sugar are produced from imported raw sugar. The purpose of this paper is to present a methodology to evaluate efficiency and effectiveness of sugar factories in Bangladesh. The methodology is based on Data Envelopment Analysis (DEA) proposed by Charens et. at, 1978. DEA may be applied to allow each of the sugar mills in Bangladesh to evaluate them in terms of how efficient and effective they are compared to one another.

Ferrantio et al. (1995) examined the effect of organizational form on the efficiency of Indian sugar industry. Using the panel data set for 126 firms, covering the period from 1980-81 to 1984-85, the study observed average TE score of 0.85. The study concluded that the majority of sugar factories were operating close to the efficient frontier. The evidence to the organizational differences among the sugar firms confirms that there exists a slight difference between the efficiency of cooperative, public, and private sugar factories.

Sing (2006) utilized the technique of DEA to analyze the efficiency of 36 sugar mills of Uttar Pradesh of India operating during the year 2003-04. The study observed the prevalence of 9 percent inefficiency among the selected sugar firms. It has also observed that 14 percent of sugar mills attained efficiency score equal to 1 and thus, identified as globally efficient under the constant returns-to-scale technology. A pressing need for capacity expansion of sugar mills has also been notified because most of the sugar mills are found to be operating in the zone of increasing return -to-scale. The post-DEA regression analysis reveals that net sugar recovery and plant size encompass a significant and positive effect on overall technical efficiency and scale efficiency of the sugar mills of Up of India.
Dwivedi et al (2014) presented a working paper entitled, “Efficiency Measurement of Indian Sugar Manufacturing Firms: A DEA Approach”. They have used to calculate the technical and scale efficiency measures of the public and private sugar manufacturing firms of Indian Sugar Industry (2006 to 2010). Empirical analysis using the panel data of five years from 43 Indian sugar manufacturing firms demonstrates that Indian firms have achieved, on an average technical efficiency, about 86-90 percent. From both input and output orientation industry efficiency average in a CRS is the same while it is different for VRS and showing better efficiency in case of output orientation.

Joshi et al (2009) wrote an article entitled, “Measuring Production Efficiency of Ready-made Firms.” The study was based on the primary data collected from eight ready-made garment firms located in Bangalore, India. To measure the efficiency, they considered the number of stitching machines and number of operators as input-variables and the number of pieces of garments produced as an output-variable. The DEA results showed that under the CRS technology assumption, average production efficiency score in the garment firms works out to be 0.75. This indicated that on average, the firms could increase their output by 25 percent with the existing level of inputs. They also pointed out that DEA is an appropriate technique, as it considers multiple input-output variables to measure the relative performance of individual firms.

The literature review on the subject undoubtedly indicates that there has not been any study conducted on the sugar industry of Bangladesh that has used DEA to measure the production efficiency of individual sugar mill. This study measures the production efficiency of ten sugar mills of our country.

II. Methodology

This study covers ten sugar manufacturing firms of Bangladesh. These are Takhurgaon Sugar Mills Ltd. (TSM), North Bengal Sugar Mills Ltd. (NBSM), Pabna Sugar Mills Ltd. (PBSM), Shampur Sugar Mills Ltd. (SHSM), Foridpur Sugar Mills Ltd. (FSM), Kushtha Sugar Mills Ltd. (KSM), Joypurhat Sugar Mills Ltd. (JHSM), Carew & Co. (Bangladesh) Ltd. (C & Co), Natore Sugar Mills Ltd. (NTSM), Mobarakganj Sugar Mills Ltd. (MBSM). There are 15 sugar mills running at present in Bangladesh. The data is collected from the individual sugar mills and the consolidated data from the BSFIC during the period during 2004 to 2013. Data for the study is obtained from secondary sources in the form of annual reports of the sugar factories for the period 2004 to 2013. The selection of sugar mills will be sufficient to make conclusion about the sugar mills of Bangladesh. The process of measuring efficiency indicators can be converted into output and input variable. Cane-based sugar is treated as output and sugarcane used in sugar production and crushing days are taken as input variables for this study. It is to be noted that for efficiency analysis molasses production is not considered as output.

Data Envelopment Analysis (DEA) is a non-parametric mathematical programming to estimate the frontier function. DEA provides the efficiency of different firms operating on same input output variable. We illustrated the DEA method from both input and output orientation. The input-oriented model aims to minimize inputs while satisfying the given output levels. The output-oriented model attempts to maximize outputs without requiring more of any of the input variables. The constant returns to scale technology (CRS) imply that the production technology under consideration is such that, an increase in all the inputs by some proportion results in an increase in the outputs by the same proportion. Suppose a firm operates on two inputs \( X_1 \) and \( X_2 \) to produce a single output \( Y \). So the production function can be given as below

\[
Y = f(X_1, X_2)
\]

This equation can be rewritten as follows

\[
1 = f(X_1/Y, X_2/Y) \quad \text{(assuming constant returns to scale)}
\]

In an input oriented measure the basic principle is to reduce inputs without reducing the amount of output. In calculating relevant results we have used software of DEAP Version 2.1.

This paper applies DEA methodology to measure production efficiency of the sugar factory of Bangladesh. DEA technique was first formulated by Charnes, Cooper and Rhodes in 1978. We have used Input oriented DEA specifically VRS and CRS model. For calculation, we have followed DEAP version 2.1 by Tim Coelli (1996). Data Envelopment Analysis (DEA) measures the efficiency of a given decision making units (DMU) in a group relative to the best practicing DMU in that group. It helps to show how relative efficiencies can be estimated and identify units that are relatively less efficient compared to the best performing DMU. Here, we have considered input variables like sugarcane used in metric tons and total crushing days and production sugar as output variable in the selected sugar mills under the study period.

III. Objectives of the Study

The specific objective of the study is to find out the main influencing factors for sugar production and efficiency of the sugar mills of Bangladesh. Other objectives of the study given below:

1. To find out the influencing factors of sugar production.
2. To assess the production efficiency of the cane-sugar mills.
3. To estimate the trend of cane-sugar production and cane used in sugar production during the study period.

4. To provide suggestions for increasing efficiency position in the sugar industry.

IV. Hypotheses of the Study

1. There is no significant difference in recovery rate of sugar between 1st five years and 2nd five years among the sugar mills during the study period.

2. There is no significant difference in actual daily crushing capacity between 1st five years and 2nd five years among the sugar mills during the study period.

3. There is no significant difference between observed recovery rate and actual recovery rate of the sample units during the study period.

V. Result & Discussion

**Table 1**

<table>
<thead>
<tr>
<th>Regression Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Multiple R</td>
</tr>
<tr>
<td>0.999</td>
</tr>
</tbody>
</table>

Selection of appropriate input and output variables is an important stage in DEA analysis. A model with a large number of variables is one that may fail to have any discriminatory power between firms because most firms will tend to be rated efficient (Majumdar, 1994). Therefore, input-output variables in DEA should be minimal. Here, the output variable is considered as the average production of sugar where as the input variables are sugarcane crushed and crushing days.

Multiple regression analysis has been conducted to know the extent of variation in sugar firms produced per year. Table 1 indicates that the output is significantly correlated with inputs such as sugarcane crushed and crushing days. The coefficient of correlation, R-square and adjusted R-square of input variables included in the model are 0.999, 0.997 and 0.996 respectively which indicates almost cent percent total variance explained by the variables included in the model.

**Table 2**

<table>
<thead>
<tr>
<th>Overall Efficiency Summary of Sugar Mills of Bangladesh</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mills</td>
</tr>
<tr>
<td>--------------</td>
</tr>
<tr>
<td>TSM</td>
</tr>
<tr>
<td>NBSM</td>
</tr>
<tr>
<td>PBSM</td>
</tr>
<tr>
<td>SHSM</td>
</tr>
<tr>
<td>FSM</td>
</tr>
<tr>
<td>KSM</td>
</tr>
<tr>
<td>JHSM</td>
</tr>
<tr>
<td>NTSM</td>
</tr>
<tr>
<td>C&amp;Co.</td>
</tr>
<tr>
<td>MBSM</td>
</tr>
<tr>
<td>All mills</td>
</tr>
</tbody>
</table>

Notes: i) * represents growth rate average efficiency during 1st half period in comparison to 2nd half period; ii) ** represent that the value is significant at 5 percent level. (Note: In paired t-test, 1st 5 years efficiency scores and 2nd 5 years efficiency scores were taken together at a time. However, the positive and negative growth rate of JHSM and C& Co. were 5.68 and 5.91 respectively seem to be efficient but they were in significant.)

Source: Author’s calculation.

The analysis of table 2 reveals that for the entire period of the study, average efficiency was 0.969 percent, during 1st half of the period, sugar industry had found to be operating at the efficiency level of 96 percent in each year. But during 2nd half of the period, sugar industry was running at 91 percent efficiency level. Growth rate was positive for JHSM and NTSM by 5.68 and 0.44 percent respectively. The positive growth rate of JHSM was insignificant for the study period. Other selected sugar mills showed negative growth rate of which the highest negative growth rate was found in PBSM i.e., 9.01 percent followed by TSM, KSM, C & Co., SHSM for 6.35, 6.23, 5.91 respectively which were significant except C & Co., for the study period.
Table 3

Utilization of Individual Input-Output Variables of the Selected Sugar Mills
(VRS Input Oriented DEA)

<table>
<thead>
<tr>
<th>DMU</th>
<th>Te</th>
<th>Peers</th>
<th>Variable</th>
<th>Original</th>
<th>Expected</th>
<th>Diff.</th>
<th>(%) (Diff.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>TSM</td>
<td>0.911</td>
<td>NBSM</td>
<td>Sugar</td>
<td>6631.74</td>
<td>7279.56</td>
<td>647.82</td>
<td>9.77</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Cane</td>
<td>100366.00</td>
<td>100366.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Days</td>
<td>81.70</td>
<td>61.70</td>
<td>-20.00</td>
<td>-24.48</td>
</tr>
<tr>
<td>NBSM</td>
<td>1.000</td>
<td>NBSM</td>
<td>Sugar</td>
<td>14935.87</td>
<td>14935.87</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Cane</td>
<td>205926.50</td>
<td>205926.50</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Days</td>
<td>126.00</td>
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<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>PBSM</td>
<td>0.954</td>
<td>NBSM</td>
<td>Sugar</td>
<td>6517.85</td>
<td>6839.58</td>
<td>317.73</td>
<td>4.87</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Cane</td>
<td>94244.70</td>
<td>94244.70</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Days</td>
<td>70.90</td>
<td>57.94</td>
<td>-12.96</td>
<td>-18.28</td>
</tr>
<tr>
<td>SHSM</td>
<td>0.950</td>
<td>NBSM</td>
<td>Sugar</td>
<td>3832.68</td>
<td>4032.61</td>
<td>199.93</td>
<td>5.22</td>
</tr>
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<td>Cane</td>
<td>55599.10</td>
<td>55599.10</td>
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<td>0.00</td>
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<tr>
<td></td>
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<td>62.90</td>
<td>34.18</td>
<td>-28.72</td>
<td>-45.66</td>
</tr>
<tr>
<td>FSM</td>
<td>0.993</td>
<td>NBSM</td>
<td>Sugar</td>
<td>8224.60</td>
<td>8286.637</td>
<td>62.04</td>
<td>0.75</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Cane</td>
<td>114251.00</td>
<td>114251.00</td>
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<td>0.00</td>
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<tr>
<td></td>
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<td></td>
<td>Days</td>
<td>109.00</td>
<td>70.240</td>
<td>-38.76</td>
<td>-35.56</td>
</tr>
<tr>
<td>KSM</td>
<td>0.972</td>
<td>NBSM</td>
<td>Sugar</td>
<td>6257.20</td>
<td>6436.87</td>
<td>179.67</td>
<td>2.87</td>
</tr>
<tr>
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<td>Cane</td>
<td>88747.60</td>
<td>88747.60</td>
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<td>0.00</td>
</tr>
<tr>
<td></td>
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<td>Days</td>
<td>80.50</td>
<td>54.56</td>
<td>-25.94</td>
<td>-32.22</td>
</tr>
<tr>
<td>JHSM</td>
<td>0.959</td>
<td>NBSM</td>
<td>Sugar</td>
<td>7318.70</td>
<td>7633.12</td>
<td>314.42</td>
<td>4.30</td>
</tr>
<tr>
<td></td>
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<td>Cane</td>
<td>105240.70</td>
<td>105240.70</td>
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<td>0.00</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Days</td>
<td>72.30</td>
<td>64.70</td>
<td>-7.60</td>
<td>-10.51</td>
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<tr>
<td>NTSM</td>
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<td>NBSM</td>
<td>Sugar</td>
<td>10235.80</td>
<td>10662.64</td>
<td>426.84</td>
<td>4.17</td>
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<td>Cane</td>
<td>147009.90</td>
<td>147009.90</td>
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<td>0.00</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Days</td>
<td>101.20</td>
<td>90.38</td>
<td>-10.82</td>
<td>-10.69</td>
</tr>
<tr>
<td>C &amp; Co</td>
<td>0.994</td>
<td>NBSM</td>
<td>Sugar</td>
<td>9248.50</td>
<td>9355.29</td>
<td>107.19</td>
<td>1.16</td>
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<td>Cane</td>
<td>126984.90</td>
<td>126984.90</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>MBSM</td>
<td>0.989</td>
<td>NBSM</td>
<td>Sugar</td>
<td>6517.85</td>
<td>6517.85</td>
<td>0.00</td>
<td>0.00</td>
</tr>
</tbody>
</table>
| Source: Author’s calculations.

Table 3 indicates the utilization position of input variables sugarcane crushed, crushing days and output of the selected sugar mills in relation to efficient sugar mills under the study period. Using the method of VRS input oriented DEA it was estimated that TSM, PBSM, SHSM, FSM, KSM, JHSM, NTSM, C & Co, MBSM were inefficient units relative to the efficient unit NBSM. If it could be possible to recover underutilization of the variable crushing days by 24.48 percent, 18.28 percent, 45.66 percent, 35.56 percent, 32.22 percent, 10.51 percent, 10.69 percent, 29.76 and 18.67 percent for the units TSM, PBSM, SHSM, FSM, KSM, JHSM, NTSM, C & Co and MBSM respectively then these units would be efficient like NBSM. Furthermore, it would be possible to expand the output level 9.77 percent by TSM, 4.87 percent by PBSM, 5.22 percent by SHSM, 0.75 percent by FSM, 2.87 percent by KSM, 4.30 percent by JHSM, 4.17 percent by NTSM, 0.64 percent by C & Co and 1.16 percent by MBSM during the study period.

Table 4

Utilization of Individual Input Variables of the Selected Sugar Mills
(CRS Input Oriented DEA)

<table>
<thead>
<tr>
<th>DMU</th>
<th>Te</th>
<th>Peers</th>
<th>Variable</th>
<th>Original</th>
<th>Expected</th>
<th>Excess</th>
<th>% (Excess)</th>
</tr>
</thead>
<tbody>
<tr>
<td>TSM</td>
<td>0.911</td>
<td>NBSM</td>
<td>Sugar</td>
<td>6631.74</td>
<td>6631.74</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Cane</td>
<td>100366.00</td>
<td>91434.31</td>
<td>8931.69</td>
<td>8.90</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Days</td>
<td>81.70</td>
<td>56.21</td>
<td>25.49</td>
<td>31.20</td>
</tr>
<tr>
<td>NBSM</td>
<td>1.000</td>
<td>NBSM</td>
<td>Sugar</td>
<td>14935.87</td>
<td>14935.87</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td></td>
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<td></td>
<td>Cane</td>
<td>205926.50</td>
<td>205926.50</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Days</td>
<td>126.00</td>
<td>126.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Sugar</td>
<td>6517.85</td>
<td>6517.85</td>
<td>0.00</td>
<td>0.00</td>
</tr>
</tbody>
</table>

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Table 4 reveals the utilization position of input variables sugarcane crushed, crushing days and output of the selected sugar mills with respect to efficient sugar mills under the study period. Applying CRS input oriented DEA; it was found that TSM, PBSM, SHSM, FSM, KSM, JHSM, NTSM, C &Co and MBSM had shown inefficiency regarding the performance of the best practiced unit NBSM. If it could be possible to reduce excessive use of the variables sugarcane and crushing days by 8.90 percent & 31.20 percent, 4.65 percent & 22.07 percent, 5.60 percent & 48.35 percent, 0.75 percent & 36.05 percent, 2.79 percent & 34.11 percent, 4.12 percent & 14.19 percent, 4.00 percent & 14.27 percent, 0.64 percent & 30.21 percent and 1.15 percent & 19.60 percent for the units TSM, PBSM, SHSM, FSM, KSM, JHSM, NTSM, C &Co and MBSM respectively then these units would be efficient like NBSM.

### VI. Hypothesis Testing

1. There is no significant difference in recovery rate of sugar between 1st five years and 2nd five years among the sugar mills during the study period.

2. There is no significant difference in actual daily crushing capacity between 1st five years and 2nd five years among the sugar mills during the study period.
ANNOVA

<table>
<thead>
<tr>
<th>Source of variation</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>P-value</th>
<th>F critical</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Group</td>
<td>570.97</td>
<td>1</td>
<td>570.97</td>
<td>2.02</td>
<td>0.17</td>
<td>4.41</td>
</tr>
<tr>
<td>Within Groups</td>
<td>5079.22</td>
<td>18</td>
<td>282.18</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>5650.19</td>
<td>19</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Author’s calculations.

The hypothesis regarding actual daily crushing capacity between 1st five years and 2nd five years among the sugar mills reveals that there is no significant difference between the two periods at 5% level of significance. ANOVA indicates that calculated value of F is only 2.02 and the critical value is more i.e., 4.41 for the study period. Daily crushing capacities of the selected sugar mills were same for the study period.

3. There is no significant difference between observed recovery rate (rate given by the sugar industry) and actual recovery rate (actual sugar production/actual cane used) of the sample units during the study period.

<table>
<thead>
<tr>
<th>Recovery Rate</th>
<th>Test Value = 6.97</th>
<th>95% confidence interval of the difference</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>T</td>
<td>Df</td>
</tr>
<tr>
<td></td>
<td>-7212.30</td>
<td>9</td>
</tr>
</tbody>
</table>

Source: Authors’ calculations.

This table shows the one sample t-test for the recovery rate of the sample units during the study period. Here, calculated t = -7212.30 which is significant at 95 percent confidence interval of the difference with 9 degree of freedom and significant at 0.0 percent with 2-tailed test.

So we reject our null hypothesis and it implies that there is a significant difference between observed recovery rate and actual recovery rate of the sample units during the study period.

VII. SUGGESTIONS

1. All concerned of the production department of sugar unit should have adequate knowledge in productivity and efficiency.
2. Proper arrangement of cultivation of quality sugarcane in sufficient quantities is required.
3. Management skills should be increased.
4. Foremost attention should be given to maximize output with minimum inputs.
5. Proper manpower planning is highly essential.
6. Proper utilization of sugarcane and daily crushing capacity must be enhanced.

VIII. CONCLUSION

This paper estimates the production efficiency of the ten sugar factory of Bangladesh using DEA technique. The empirical results suggest that the entire sugar factories are technically efficient during the study period. Only TSM had lowest technical efficiency by 91 percent for the entire period TSM, PBSM, SHSM and KSM had decreased production efficiency for 2nd half significantly. On the other hand JHSM and NBSM showed increased efficiency but they were insignificant for the study period. VRS input oriented DEA indicates that SHSM would be able to produce more 2.87 percent sugar with same sugarcane and by reducing 32.22 percent crushing days for the study period as compared to peer unit.CRS input oriented DEA depicted that KSM would be able to produce same quantity of sugar by reducing 2.79 percent sugarcane as well as 34.11 percent crushing days if it were an efficient sugar mills. There is a significant difference of actual recovery rate of sugar between 1st five years and 2nd five years for the study period. It is found that there was no significant difference in daily crushing capacity between 1st five years and 2nd five years for the study period. Sufficient high quality sugarcane and overhauling machinery can be able to make inefficient sugar mills to efficient one.

REFERENCES


The Unprecedented Business Ethical Dilemma in the World Financial Markets

By Prof. Edel Lemus & Dr. Prof. Miguel A. Orta

Carlos Albizu University and Nova Southeastern University, United States

Abstract- The purpose of this article is to explore the importance of business ethics in the corporate business world. Good ethical practices and behaviors are critical to the success of organizations. The first code of professional conduct (as cited in Messier, Glover, and Prawitt, 2008) was introduced and written in 400 BC (Hippocratic Oath). The Sarbanes Oxley Act of 2002 brought financial transparency among corporate management and auditors in order to prevent white collar crime. Clement (2006) found in his study that in top 100 Fortune corporations, only forty engaged on unethical behavior. The Foreign Corrupt Practices Act (FCPA) is one of the fastest changing acts in the criminal law arena. It attempts to curb bribery of foreign officials that give business advantages to those paying the bribe. The Securities and Exchange Commission (SEC) has collected over $1.4 billion in fines (Turk, 2013) due to both illegal and unethical acts. In today's global economy, corporate scandals are increasing at a rapid pace.

Keywords: business ethics, code of conduct, fcpa, sarbanes oxley act of 2002, white collar crime, auditing, white collar crime.

GJMBR - D Classification : JEL Code : M40

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I. Introduction

This article will introduce the importance of business ethics and its purpose. In 1977, Congress passed, The Foreign Corrupt Practices Act (FCPA) in response numerous incidents of bribery and the ethical misconduct by 300 publicly traded companies in the United States (US). In 1988, The Foreign Corrupt Practices Act (FCPA) was further codified as an amendment under the Securities and Exchange Act of 1934.

Business ethics is critical to the accounting profession, because auditors in the public corporate sector need to abide by the principles of the code of professional ethics. There are four major parts to the code. The four important sections under the code of professional ethics as written by Al Momani and Obeidat (2013) are: “(1) principles, (2) rules of conduct, (3) interpretations of the rules of conduct, and (4) ethical ruling” (p. 121). Panwar, Paul, Nybak, Hansen, and Thompson (2014) recommended that incorporating Corporate Social Responsibility (CSR) to the organization is crucial for its success. Moreno and Capriotti (2009) defined Corporate Social Responsibility (CSR) as the organizations’ foundation to seek a better economic, social and environmental aspect by expanding the conceptuality of corporate citizenship and sustainable development. For example, Margolis and Walsh (2003) reviewed 122 research studies and concluded that companies that adopt Corporate Social Responsibility (CSR) have a better relationship between ethics and financial reporting. KPMG (as cited in Thomas and Lamm, 2012) conducted a survey on 250 global companies. KPMG survey concluded that 83% of published financial results were in actual compliance with the principles of Corporate Social Responsibility (CSR). They also found 25% of the companies treat Corporate Social Responsibility (CSR) as a social relationship in the corporate business world (Panwar, Paul, Nybak, Hansen, & Thompson, 2014).

II. Literature Review

Business ethics it’s defined as the existing relationship between ethical judgment and people’s ethical choices. Professional accountants consider business ethics synonymous with corporate ethics. Business ethics can be applicable to any existing corporate ethical dilemma that arises across the business environment. Therefore, unethical act is also attributed to the violation of the rule, code and norm of the law (Sparks, & Pan, 2010).

Royae, Ahmadi, and Jari (2013) mentioned that accountants and auditors in the auditing profession should have a high degree of ethical principle and standard. Ethics can help accountants, auditors and the organization (as cited in Massey et al. 2006) to succeed by preventing fraud. The accounting discipline sustainability is supported by business ethics. Empirical studies (as cited in Merphy and Josephine, 2011) demonstrate that stockholder and shareholder theories always present a great deal of ethical differences debate. Also, organizational scandals have guided the government to increase compliance level requirement in the financial market (Royae, Ahmadi, & Jari, 2013).

Business ethics is critical to the accounting profession, because auditors in the public corporate sector need to abide by the principles of the code of professional ethics that is supported by four important sections. The four important sections under the code of

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professional ethics as written by Al Momani and Obeidat (2013) are: "(1) Principles, (2) rules of conduct, (3) interpretations of the rules of conduct, and (4) ethical ruling" (p.121). Auditing is an important function of the profession. In terms of practicality the auditor is required under Generally Accepted Accounting Principles (GAAP), to audit the company’s financial statement and up to the best of their knowledge express a fair opinion with enough objectivity and faithfulness. Therefore, in the accounting profession auditors are affected by different accounting principles and audit ethics (Al Momani, & Obeidat, 2013).

The Ethical Business Leader’s Decision Tree

According to Bagley (2013) the above exhibit 2.1 “provides a tool business leaders and their counsel can use to evaluate the legal and ethical aspects of their strategy and its implementation" (p.23).

<table>
<thead>
<tr>
<th>Company</th>
<th>Nature of Accounting or Business Fraud</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>HealthSouth</td>
<td>Overstated performance by $4 billion in false entries.</td>
<td>Senior executives criminally convicted.</td>
</tr>
<tr>
<td>Qwest Communications International, Inc.</td>
<td>Improperly recognized $3 billion in false receipts.</td>
<td>CEO and six other executives criminally convicted of “massive financial fraud.” $250 million SEC fine.</td>
</tr>
<tr>
<td>Xerox Corporation</td>
<td>Recognized $3 billion in revenue prior to when it should have been recorded.</td>
<td>$10 million fine to SEC. Six executives forced to pay $22 million.</td>
</tr>
</tbody>
</table>

(Bagley, 2013, p. 23)

Warren, Reeve, and Duchac, 2014, p.4)
III. Enron Corporation Scandal

The scandal of Enron Corporation (as cited by Lemus, 2014) was the most outlanded case of ethical violation in the United States (US) by exercising accounting creativity. The accounting creation of Enron Corporation was supported by three major accounting violations. They were The Off-Balance Sheet Method, Mark-to-Market Method and Derivatives Manipulation. The Off-Balance Sheet Method (as cited in Kahn, 2002; Henry, 2002) permitted Enron Corporation to hide losses and restate $586 million in earnings. The Mark-to-Market Method (as cited in Thomas, 2002) allowed Enron Corporation to report pretax profit by hiding $1.41 billion. Enron’s Derivatives Manipulation (as cited in Albrecht, Albrecht, Dolan, & Malagueno, 2008) increased from $1.8 billion to $10.5 billion and also reporting more than $16 billion in gain for derivatives. Therefore, Enron Corporation by December 2, 2001, determined to file bankruptcy (Lemus, 2014).

IV. The Purpose of Sarbanes-Oxley Act of 2002

The Sarbanes Oxley Act of 2002 was introduced by Congress on July 25, 2002, and signed by former President George W. Bush in response to the corporate scandals in the United States (US). The purpose of the Sarbanes Oxley Act of 2002 was to restore investors trust and financial confidence (Miller, 2010). Braun, Tietz and Harrison (2008) indicate that Sarbanes Oxley Act of 2002 strive to enhance the internal accounting control system of publicly traded corporations by aligning management, company's financial reports and auditors reliability when expressing a fair opinion over the financial statements. Publicly traded companies have invested millions of dollars in upgrading the internal accounting control system. Chief Executive Officer (CEO) and Chief Financial Officer (CFO) are responsible for the materiality of the information presented in the financial statements. Williams, Haka, Bettner, and Carcello, (2010) wrote that Sarbanes Oxley Act of 2002 since its enactment has affected the managerial accounting aspect of an organization, because of the high compliance cost. Therefore, the main goal of Sarbanes Oxley Act of 2002 is to bring financial transparency among corporate management and auditors by preventing white collar crime.

V. Comparison and Contrast of Current Practices

The code of professional conduct (as cited in Messier, Glover, and Prawitt, 2008) was introduced and written in 400 BC under the Hippocratic Oath. In 1962, the American Institute of Certified Public Accountants (AICPA) established the code of professional ethics. By 1973, the American Institute of Certified Public Accountants (AICPA) revisited and revised the same. In 1988, the American Institute of Certified Public Accountants (AICPA) incorporated six principles to the accounting profession (Neill, Stovall, & Jinkerson, 2005). The code of professional conduct is promulgated by the American Institute of Certify Public Accountants (AICPA). Under the code of professional conduct their exist six principles that provide a complete framework of the professional ethical of accountants. The first two principles from the code of professional conduct regulate the moral judgment and responsibility of the profession. The third and fourth principle highlights ethical integrity, objectivity, honesty and the quality of independence. The fifth principle deal with the professional integrity competence level. The sixth principle indicates that accounting professionals should maintain an adequate internal control of activities among clients (Messier, Glover, & Prawitt, 2008).

VI. Ethical Dilemma

Example No. 1:

In today's business world, the major ethical dilemma that exists is between ethics and profits. A thorough analysis of this dilemma will lead one to understand what is unethical conduct. Since 1980, illegal acts have force some of the largest publicly traded companies to file for bankruptcy. Arthur Andersen, one of the world top accounting firms, "look the other way" as several other publicly traded companies including Enron, WorldCom committed accounting fraud. They permitted this conduct in the violation of the Code of Professional Conduct in order to appease their clients and maintain their own profitability.

The U.S. Department of Justice indicted Arthur Andersen for criminal behavior and fostering unethical behavior by publicly traded companies. Arthur Andersen then went out of business. Years later they were acquitted of the criminal charges but their reputation was severely damage by their unethical behavior. One of the main purposes of the code of professional conduct is to establish ethical responsibility in the accounting industry by protecting organizations and employees from financial accounting scandals (Brigham, & Ehrhardt, 2014).

Example No. 2:

In the last two decades of the twentieth century the auditing profession faces major costly lawsuits. As a result of their auditing process Ernst & Young (EY) was sued for $400 million, due to misleading financial information reported in the auditor’s opinions. Once Sarbanes Oxley Act of 2002 was enacted, the Securities and Exchange Commission (SEC) focused their investigation efforts on auditor’s ethical performance. The Securities and Exchange Commission (SEC) scrutiny the auditing performance in their reporting of financial results by strict review of the financial reporting...
results and held the auditors liable for any misrepresentation. Enron and WorldCom's massive fraud spurred numerous litigation across the United States (US) in the accounting profession. Messier, Glover and Prawitt (2008) indicated that ‘Ernst & Young (EY) client Cendant paid in settlement amount $335 million, Deloitte client Adelphia $210 million, Deloitte client Parmalat $149 million, KPMG client Rite Aid paid $125 million and PricewaterhouseCoopers (PwC) client Barings Bank $94 million” (p.688). Furthermore, the top four auditing firms mentioned previously were fined by the U.S. Justice Department; because they were aggressively selling tax shelter to American companies by helping them to avoid taxes. Thus auditors were held liable for their actions and professional performance (Messier, Glover, & Prawitt, 2008).

Watson Water Technologies (WWT) Violation of The Foreign Corrupt Practices Act (FCPA)

Watson Water Technologies (WWT) is a prominent multinational corporation that purifies water at large scale for the government and other private institution around the globe. The Securities and Exchange Commission (SEC) fine Watson Water Technologies (WWT) the amount of $250 million, because the company failed to comply with The Foreign Corrupt Practices Act (FCPA). Messier, Glover, and Prawitt (2008) reveal that in 1977, Congress passed, The Foreign Corrupt Practices Act (FCPA) in response to the high number of bribery and the ethical misconduct by 300 American publicly traded companies in the United States (US). In 1988, The Foreign Corrupt Practices Act (FCPA) was codified as an amendment under the Securities and Exchange Act of 1934. For instance, companies under The Foreign Corrupt Practices Act (FCPA) are required to maintain an adequate internal accounting control system. The Foreign Corrupt Practices Act (FCPA) is one of the fastest changing acts in the criminal law arena and at the same time the Securities and Exchange Commission (SEC) has collected over $1.4 billion in fines (Turk, 2013). Watson Water Technologies (WWT) was paying foreign officials to obtain business contracts. Such behaviors are illegal under The Foreign Corrupt Practices Act (FCPA). As an additional penalty, Watson Water Technologies (WWT) has been forced for the past three years to report earnings under the eXtensible Business Reporting Language (XBRL) by meeting the Securities and Exchange Commission (SEC) corporate filing requirement (Bargerstock, & Shi, 2014).

Five Publicly Traded Companies in Different Industries

In 2010, five publicly traded companies were involved in unethical act by violating The Foreign Corrupt Practices Act (FCPA). The five publicly traded companies that violated The Foreign Corrupt Practices Act (FCPA) were (1). KBR Corporation, (2). Goldman Sachs, (3). Dell, Inc., (4).General Electric, and (5). Citigroup (Verschoor, 2010).

KBR acting as a defense contractor for Halliburton Company and its subsidiary Snamprogetti; Technip, bribed the government of Nigeria in the amount of $18 million. It was fined $240 million by the Securities and Exchange Commission (SEC) for such behavior. Goldman Sachs was fined $550 million for misleading investors.

Dell, Inc. manipulated the company's accounting records by indicating that they were consistently meeting their projected earnings on Wall Street. They paid $100 million to settle the accounting disclosure violation.

General Electric was charged with bribery in Iraq during the United Nations Oil for Food Program. According to Verschoor (2010) the Securities and Exchange Commission (SEC) alleged that General Electric (GE), "made illegal kickback payments in the form of cash, computer equipment, medical supplies, and services to the Iraqi Health Ministry and the Iraqi Oil Ministry" (p.20).

Citigroup one of the largest and stable financial banks around the world was also charged by the Securities and Exchange Commission (SEC). Citigroup was accused of under reporting their exposure during the subprime financial market crisis. Citigroup indicated that their exposure was in the amount of $13 billion, when indeed the real bank's exposure was $50 billion. Citigroup paid the Securities and Exchange Commission (SEC) a fine of $75 million (Verschoor, 2010).

Example No. 3:

In today's global economy, corporate scandals are increasing at a rapid pace. Panwar, Paul, Nybakk, Hansen, and Thompson (2014) recommended that incorporating Corporate Social Responsibility (CSR) to the organization is crucial for its success. Moreno and Capriotti (2009) defined Corporate Social Responsibility (CSR) as the organizations' foundation to seek better economic, social and environmental aspect by expanding the conceptuality of corporate citizenship and sustainable development. Corporate citizenship focuses on addressing the needs and demand of all stakeholders. Sustainable development focuses on three dimensions, human rights, worker's rights and technology. An example of companies in the technology sector that had demonstrated great corporate citizenship image both corporate are Apple and Google (Seetharaman, 2013).

Margolis and Walsh (2003) reviewed 122 research studies and concluded that companies that adopt Corporate Social Responsibility (CSR) have a better relationship between ethics and financial reporting. The Securities and Exchange Commission (SEC) (as cited in Adamy and Thurwo, 2007) has given recognition to Starbucks for their Corporate Social...
Responsibility (CSR) policies. The research study of Giannarakis and Theotokas (2011) compared and contrasted organizations that adopted Corporate Social Responsibility (CSR) part of the 2008 financial crisis versus organizations that adopted Corporate Social Responsibility (CSR) after the 2008 financial crisis. They found that there was a large difference in their financial reporting. They also concluded that two thirds of the companies that had not establish Corporate Social Responsibility (CSR) in their accounting reporting system had committed unethical act. According to (Mohr et al. 2001; Handy 2002) most American companies have little confidence on Corporate Social Responsibility (CSR) policies. Clement (2006) found in his study that 100 Fortune corporations only forty companies treat Corporate Social Responsibility (CSR) as a social relationship in the corporate business world (Panwar, Paul, Nybakk, Hansen, & Thompson, 2014).

VII. Conclusion

In conclusion, it is inevitable that ethical practices and behaviors are critical to the accounting profession, because the information presented in the financial statements must be accurate and free of error. The profession has adopted the Code of Professional Conduct. Although, the code of conduct did not prevent the fraudulent behavior of such as Enron and WorldCom, it did provide guidance to the majority of the CPAs' in the United States (US) that continuously act in an ethical manner. The Sarbanes Oxley Act of 2002 was enacted not only in response to the corporate scandal but to raise ethical standard to a legal requirement.

VIII. Recommendation for Future Studies

The authors of this article suggests that the following aspects should be considered for future studies when exploring business ethics for any professional organization:
1. Auditors and organizations (as cited in Messier, Glover, and Prawitt, 2008) need to understand the theoretical relevance that exist between "(1).utilitarianism, (2). a rights-based approach, and (3). a justice-based approach"(p.643) to ethics. Elements in each theory will help prevent ethical lapses and inappropriate behaviors in the accounting profession.
2. Companies should communicate in the company’s website the importance of (1) Corporate Social Responsibility, (2). Corporate Citizenship and (3). Sustainable development and how these three concepts support the accuracy and transparency of the organization’s financial reporting system.
4. Professional accountants and regulators are encourage to study the auditing issues that presently exist under the 11 chapters of Sarbanes-Oxley Act of 2002.

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Integration of Ethics in Malawian Public Accountancy Education

By Andrew Munthopa Lipunga

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Abstract- The study was a content analysis of recently revised Malawian public accountancy curriculums with an aim of evaluating the level of ethics integration. The study also examined the old curriculums in order to appreciate the improvements that the revision made in relation to ethics integration. The study analysed the curriculums of three basic entry levels namely; certificate level, diploma level and degree level. The findings suggested that ethics was not integrated in the old certificate curriculum; however it is now embedded in a single course in revised curriculum. On the other hand, in both the old diploma and old degree curriculums, ethics was embedded only in auditing courses. However in the revised diploma curriculum, ethics is embedded in three additional courses. In the revised degree curriculum ethics is embedded in five additional modules, besides, a standalone module has been introduced. Thus the results suggest significant improvements in the level of ethics integration in the Malawian public accountancy education. The study recommends further comparative studies to evaluate the quality of integration, besides examining the efficacy of teaching, learning and assessment of ethics.

Keywords: content analysis, ethics, malawi.

GJMBR - D Classification : JEL Code : H83, M40

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I. INTRODUCTION

Corporate scandals have historically been instrumental in revealing the need to inculcate in students the significance of ethics and the increasing attention towards teaching of business ethics (Ho and Lin, 2006; Singh and Poduval, 2009; Brenner et al., 2012). The current study comes in the wake of a financial scandal in the Malawian public sector. The scandal involved massive looting of public money by public servants at Malawi’s Capitol Hill in collusion with business persons. According to a forensic audit report, the looting involved among other things “extraction of cash in local currency through systematic money laundering activities using private companies as well as through fraudulent payments to dubious overseas companies in foreign currency” (Nhlema and Khanje, 2014, February, 24). The audit further revealed that subsequently attempts made to delete the transaction data in the government’s Integrated Financial Management Information System (IFMIS) (Nhlema and Khanje, 2014, February, 24). The audit highlighted that the looting was premeditated and planned and not opportunistic (Nhlema and Khanje, 2014, February, 24).

Although the investigations are still underway it is apparent that accountants in the public system played some role directly or indirectly contrary to the ideals of the profession. This is evident by significant blame placed on the office of Accountant General by the forensic audit report. Besides, accountants serve as financial reporters and intermediaries (Williams and Elson, 2010), hence generally expected to have had some knowledge as the transactions are processed by them. Coincidentally or not, the forensic auditors found that basic accounting procedures and protocols, including those required by the treasury instruction and Public Finance Management Act, were not being followed or applied. Thus the scandal raised some questions regarding ethical conduct and professional responsibility of the accountants.

Basically, accountants’ role is critical to society (Williams and Elson, 2010). Ideally accountants serve public interest and this is regarded as critical and the primary obligation of the profession (Davenport and Dellaportas, 2009; Williams and Elson, 2010). According to Davenport and Dellaportas (2009) public interest is best served when ethical standards and principles of professional conduct are voluntarily and impartially practised. Accordingly, a deviation from public interest role, whether real or perceived, may be viewed as uncaring, irresponsible, self-promoting and untrustworthy (Davenport and Dellaportas, 2009). Generally ethical improprieties by accountants do not only bring disrepute to profession but are also detrimental to society (Williams and Elson, 2010). This is evident in Malawi as the immediate result of the financial scandal was suspension of budgetary support by the donor community which is impacting negatively on the poor and innocent citizenry.

The paper was not intended to place a blame on accountants, as many other people in various professions were also involved. However as an accounting educator my thoughts were on the role of accountants who are products of the accounting education system which I am part. As the scandal borders on ethical conduct, my major concern was on whether ethics and professional responsibility is being adequately covered in Malawian accounting education curriculums. The focus was on the accounting curriculums that are locally developed by statutory-established accountancy educational institutions in the country. These institutions being public are generally expected to promote public interest and be models to private institutions. Thus their curriculums are expected to represent the basic standard that the government
expects to be imparted in the accounting professionals in Malawi. Besides, private institutions are just being established as such most of the accounting professionals are products of the public institutions. The fundamental question was whether the public accounting education in Malawi has all it takes to develop and strengthen ethical conduct and professional responsibility of its graduates. It should be noted that “public accounting education” in the case of this study meant that offered by statutory-established institutions.

International Accounting Education Standards Board (2006) observed that ethical or moral competency is an important attribute of an accounting professional. Consequently, Albrecht et al., (2006) posited that before graduates are permitted to enter accounting profession, they should be required to demonstrate that they have a personal ethical understanding and that they can translate their ethical understanding to accounting and other business settings. Albrecht et al., (2006) noted that assessment of such translation and values should be part of every professional entry-level examination. As such accountancy educational institutions have an important role of ensuring that ethics is impart and students display ability to translate the same in practice before graduation.

Accounting education is considered part of the process of developing necessary competency levels (International Accounting Education Standards Board, 2006). Apparently, accounting ethics education is considered as an effective means which the accountancy profession and the academic community use to strengthen ethical conduct in practice (Chan and Leung, 2006). Sisaye (2011) pointed out that accounting ethics education has a normative and functional role that has positive intervention and reinforcement on developing students’ ethical sensitivity and moral judgements. According to Albrecht et al., (2006), teaching students how to translate their personal ethical understanding to the business world is as important as developing a strong ethical understanding.

Bampton and Maclagann (2005) suggested that academic institutions should aim to produce graduates who are ethically aware and capable of making ‘right’ decisions. In harmony, Ho and Lin (2006) asserted that a part from acting the role of fostering manpower, educational institutions take the responsibility of infusing ethics into students. Accordingly accounting educators have an ethical responsibility to teach and show the importance of having high ethical values (Albrecht et al., 2006). Armstrong et al., (2003) highlighted that educators “set the stage” for ethical behaviour by increasing moral sensitivity, moral reasoning and moral motivation. Thus McManus and Subramaniam (2009) observed that studying ethics education at the professional and tertiary levels was clearly timely and critical.

The current study was aimed at examining whether ethics is adequately integrated in public accounting education in Malawi. Although ethics integration in curriculums may not be the ultimate solution, it is however an important part of the solution that cannot be ignored. The curriculums generally determine what is imparted to the students. The study evaluated ethics integration in the curriculums of Malawian public accountancy institutions namely: Institute of Chartered Accountants in Malawi (ICAM) and the University of Malawi (UNIMA).

II. Structure of Public Accountancy Education in Malawi

The local public accountancy education system in Malawi can be segregated into three basic entry levels; certificate level, diploma level and degree level. There are currently two main players namely: the Institute of Chartered Accountants in Malawi (ICAM) and the University of Malawi (UNIMA) through the Malawi Polytechnic its constituent college.

ICAM has recently established through the merger of the Public Accountancy Examination Council of Malawi (PAECM) and the Society of Accountants in Malawi (SOCAM). The main functions of PAECM in relation to accountancy education included curriculum development, students’ registration, administration of examinations and awarding the certificates. The PAECM was offering certificate and diploma programmes. These programmes were wholly adopted by ICAM; and additionally a Malawian professional qualification programme was introduced. The professional qualification programme is being offered with assistance from Institute of Chartered Accountants in England and Wales (ICAEW). The current study evaluates the certificate and diploma curriculums as the professional qualification programme started enrolling in June 2014 as such its impact is yet to be felt on the ground.

The ICAM certificate constitute the certificate level of the Malawian public accountancy education. It is the basic entry level that has four courses (see TABLE 1). Its minimum completion period is six months with a maximum of two years. Upon passed all the four courses a Certificate in Financial Accounting (CFA) is awarded to the candidate.

<table>
<thead>
<tr>
<th>TABLE 1 : Courses under the certificate level</th>
</tr>
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<tbody>
<tr>
<td>1</td>
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<tr>
<td>2</td>
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<tr>
<td>3</td>
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<tr>
<td>4</td>
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</tbody>
</table>

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The ICAM diploma constitutes the diploma level. At this level, the curriculum has twelve courses as shown in TABLE 2. It minimum completion period is one year and six months, and upon passing all the courses, a diploma in accounting is awarded to the candidate.

As already noted, ICAM wholly adopted the PAECM certificate and diploma curriculums at its establishment; the names and number of courses remained the same, however revisions were subsequently made to the content. Thus in order to evaluate the impact of revision on ethics integration, the study evaluated both the PAECM certificate and diploma curriculums hereafter called the "old curriculums" and the ICAM curriculums hereafter called the "revised curriculums".

<table>
<thead>
<tr>
<th>TABLE 2 : Courses under the diploma level</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Accounting 1</td>
</tr>
<tr>
<td>2. Accounting 2</td>
</tr>
<tr>
<td>3. Taxation</td>
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<tr>
<td>5. Auditing</td>
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</tbody>
</table>

Finally, the degree programme offered by the University Of Malawi (UNIMA) constitutes the degree level. UNIMA is the oldest and is considered the top university in Malawi. The university offers a degree of Bachelor of Accountancy through the department of accountancy at one of its constituent colleges, the Malawi Polytechnic.

The degree programme is for four years. The curriculum of the programme was recently revised. Presently the revised curriculum is in process of being fully implemented. It is at the moment being offered to first and second year students only. On the other hand, the old curriculum is in the process of being phased out.

The study examined both the old and the new curriculums as they are both in force, and in order also to measure the impact of the revision on ethics integration. The courses under the old curriculum are presented in TABLE 3A. Unlike the old curriculum, the new curriculum follows a modular system, as such TABLE 3B exhibits the modules of the revised curriculum.

<table>
<thead>
<tr>
<th>TABLE 3B Modules the new curriculum of the degree programme</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year One</td>
</tr>
<tr>
<td>Semester 1</td>
</tr>
<tr>
<td>1. Fundamentals of Accounting</td>
</tr>
<tr>
<td>2. General Principles of Law</td>
</tr>
<tr>
<td>3. Business Numeracy</td>
</tr>
<tr>
<td>4. Microeconomics</td>
</tr>
<tr>
<td>5. English for Academic Purposes I</td>
</tr>
<tr>
<td>6. Organisational Behaviour I</td>
</tr>
<tr>
<td>Semester 2</td>
</tr>
<tr>
<td>1. Business Accounting I</td>
</tr>
<tr>
<td>2. Introduction to Calculus</td>
</tr>
<tr>
<td>3. Labour Law</td>
</tr>
<tr>
<td>4. Macroeconomics</td>
</tr>
<tr>
<td>5. English for Academic Purposes II</td>
</tr>
<tr>
<td>6. Organisational Behaviour II</td>
</tr>
<tr>
<td>Year Two</td>
</tr>
<tr>
<td>Semester 1</td>
</tr>
<tr>
<td>1. Business Accounting II</td>
</tr>
<tr>
<td>2. Cost Accounting</td>
</tr>
<tr>
<td>3. Commercial Law</td>
</tr>
<tr>
<td>4. Management Information Systems</td>
</tr>
<tr>
<td>5. Fundamentals of Statistics</td>
</tr>
<tr>
<td>6. Business Communication</td>
</tr>
<tr>
<td>Semester 2</td>
</tr>
<tr>
<td>1. Business Accounting III</td>
</tr>
<tr>
<td>2. Costing and Budgetary Control</td>
</tr>
<tr>
<td>3. Business Statistics</td>
</tr>
<tr>
<td>4. Organisational and Managerial Communication I</td>
</tr>
<tr>
<td>5. Computer Applications</td>
</tr>
<tr>
<td>6. Taxation</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>TABLE 3A Courses of Old Curriculum of the degree programme</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year One</td>
</tr>
<tr>
<td>1. Business Numeracy</td>
</tr>
<tr>
<td>2. Organisational Behaviour</td>
</tr>
<tr>
<td>3. Financial Accounting 1</td>
</tr>
<tr>
<td>Year Three</td>
</tr>
<tr>
<td>1. Communication</td>
</tr>
<tr>
<td>2. Management Accounting</td>
</tr>
<tr>
<td>3. Financial Accounting 3</td>
</tr>
</tbody>
</table>
III. Review of Literature

The subject of ethics generally continues to take a centre-stage in academia, as well as a research theme (Salleh and Ahmad, 2012). Shawver (2006) noted that accounting cannot continue to operate in a vacuum, expecting that accounting decisions would not pose ethical dilemmas with impact on individuals, companies, and society. As a result, Shawver (2006) was of the view that it is important that accounting students be educated about ethics prior to sending them off into the profession. Thus educational institutions have a responsibility to acquaint their students with the ethical challenges they will face in their careers and the importance of professional responsibility (Ho and Lin, 2006; Shawver, 2006).

Supporting the importance of ethics education in promotion of ethical conduct in accounting students, Bonawitz (2002) cited in Ho and Lin (2006) found that students exposed to courses having a purposeful focus on professional ethics and ethical issues, show significantly greater growth in the use of principled moral reasoning than similar students not exposed to such courses. McManus and Subramaniam (2009) identified ethics education at university as a significant factor affecting perceptions of the seriousness of an unethical issue as well as the behavioural intentions of accountants early in their career. Thus McManus and Subramaniam (2009) considered the results as clear indication that university curricula need to pay more attention to the quality and extent of ethics content in the accounting programmes.

Although extant literature tends to support ethics education, there are some diverging views on whether ethics can really be effectively taught to students and foster ethical behaviour. Ho and Lin (2006) attempted to answered this question of effectiveness with a “yes” and “no” answer after carrying a review a literature of both positions. They based their answer on the understanding that it all depends on the goals of the ethics education. Ho and Lin (2006) stated that based on the literature favouring ethics education, the answer would be “Yes”:

“...If the goals of business ethics education are to provide theories, models, approaches, examples or case studies which might be useful in handling business ethical dilemmas, to make students more sensitive to the ethical implications of some business activities, and to provide students with a set of tools that could help them analyze difficult ethical situations later in their business careers.”

Ho and Lin (2006) noted that there is good amount of evidence that reveals that such goals can be achieved through teaching business ethics in the classroom.

On the other hand, Ho and Lin (2006) observed that the answer would be “No”:

“If the goals are to create value systems that will enable students to act ethically, and to make students having the moral will to choose the ethically correct action even when it conflicts with self-interest.”

Despite the side of the argument one may be, Ho and Lin (2006) argued that:

“...In the complexity of today’s business environment, students still need additional guidance for making ethical decisions, which can help them to recognize the ethical dilemmas that are likely to arise in their jobs, as well as the rules, laws, and norms that apply in the business context. They can learn reasoning strategies that can be used to arrive at a better ethical decision, and can grasp an understanding of the complexities of organizational life that may conflict with one’s desire to do the right thing.”

This position appears to be the one taken by many in the profession and seems to have some empirical support. Jackling et al. (2007) found a general belief that ethics education is of importance in the education of accountants in all sectors of the economy. Kerr and Smith (1995) cited in Ho and Lin (2006) found that ethics education can increase skills in identifying and analyzing problems, essential in handling conflicts of values which arise between the practitioners, clients and society. Chan and Leung (2006) found that accounting students that receiving a specific accounting ethics intervention were more sensitive to ethical issues in a professional scenario, which according to them suggested the possible impact of accounting ethics.
education on accounting students’ ethical sensitivity development. IFAC member bodies in a survey also expressed very strongly the view that ethics education is necessary to develop a sense of ethical responsibility for future accountants; improve the moral standards and attitudes of future accountants; develop the problem solving skills that have ethical implications; and to develop a sense of professional responsibility (International Accounting Education Standards Board, 2006). Singh and Poduval (2009) also found that even accounting lecturers are aware of a need to teach accounting ethics to accounting students and most of the lecturers were teaching accounting ethics as embedded in the relevant courses. Thus ethics continues to be integrated in many accounting curriculums.

Integration of ethics is particularly of essence with shifting emphasis of the role of accounting in harmony with the dynamism of the modern environment. Dellaportas et al. (2006) noted that in the modern environment, technical focus of accounting education should be de-emphasized and should be replaced with an appreciation of the role of accounting in the political, economic and social contexts. Mohamed and Lashine (2003) observed that in designing the curriculum, effort should be made not to have the courses taught as a series of technical rules rather the curriculum should expose students to broader businesses by using real-world examples, emphasize on global perspectives. Mohamed and Lashine (2003) further intimated that accounting education should provide students not only with the knowledge and skills required, but also with the know-how that enables them to apply those skills i.e. wisdom, critical ability and ethics needed for them to make the right decision at the right time. Besides, Kermis and Kermis (n.d.) indicated that the educational process must recognize that ethics is not simply the awareness of a code of professional ethics. Thus, programs need to be designed that bring the issues and development of personal and professional ethics into the realm of a core competency required of all those entering the accounting profession (Kermis and Kermis, n.d.).

There is really a need to strengthen the curriculums in relation to ethics and professional responsibility. Further to that continuous improvements to the curriculum must be made to ensure continued relevance. According to Kannaiah and Kumar (2009) ethics education must be kept up-to-date. They noted that ethics education needs to be a life-long learning commitment beginning early in a prequalification programme and continuing throughout the career. According to Shawver (2006) ethics can either integrated at the course level, or at the curriculum level. Course level integration involves having a stand-alone course that focuses on ethics, while at curriculum level integration is where issues of ethics are embedded within the other courses in the curriculum. Mohamed and Lashine (2003) posited that the curriculum should have a course in values, ethics, and integrity. Albrecht et al. (2006) asserted that having a dedicated ethics course that teaches basic business ethical principles is highly valued; however they also observed that it is most important that ethics form part of every taught course. Furthermore Albrecht et al. (2006) observed that efforts are needed to make sure that in every taught business course, whether it is accounting, marketing, finance, strategy or organisational behaviour, is able to force students face ethical dilemmas. Thus Albrecht et al. (2006) seem to suggest integration of ethics both at course and curriculum levels.

Williams and Elson (2010) also favored integration of ethics at both curriculum and course levels to ensure efficacy of ethics education. Williams and Elson (2010) observed that apart from being covered in every accounting course, ethics should also have its own place and focus in the accounting curriculum. They noted that a separate ethics course will equip accounting students with the knowledge, skills and expertise they need to be successful in today’s business environment. Supporting the position, Williams and Elson (2010) explained that when ethics is integrated into existing courses, it inevitably gets lost in other accounting material. Thus if accounting ethics is important to the accounting profession, then it should also be the focus of a separate course. In the same vein, Salleh and Ahmad (2012) intimated that a special stand-alone course, over and above the practice to embedding ethics throughout the curriculum course is necessary.

Thus ethics should be taught as part of the pre-qualifying programs and there should be a dedicated unit as well as integrated within other units of study (Jackling et al., 2007). Following this position, Albrecht et al. (2006) posited that in all courses and cases ethics should be taught and assignments given that discuss situations in which students have to identify potential conflicts of interest, fraudulent behaviour, illegal activities, and business practices that push the limits of propriety. Furthermore, Albrecht et al. (2006) suggest that ethical dilemmas should not always be explicit and students should not always know that ethics is an issue in assignments and cases. Sisaye (2011) further noted that ethics coverage in accounting can become more applied and practical when the instruction methodologies follow experiential organizational-based internship education. While Doost (1999) highlighted that integrity should be made pervasive, for it to be internalized and more than teaching and preaching it, the educators must project it in all their dealings and actions.

Furthermore, it should be noted that students have a critical role to play in ensuring effectiveness of ethics education. This is the case because ethics
education in classroom merely sets the stage for ethical behaviour by increasing moral sensitivity, moral reasoning and moral motivation, but students are the ones that take the last step (Armstrong et al., 2003). Thus in order to increase accounting students, moral motivation, Armstrong et al. (2003) suggested the need for the following:

1. Exhorting students to good behaviour, pointing out that they, indeed, are masters of their moral selves, and encouraging them to take pride in their profession.


Besides, Armstrong et al. (2003) urged all accounting educators of the need to recognize their important part in students’ moral maturation. Pointing out that:

“Accounting faculty are the leaders of that branch of the accounting community to which students are first exposed, the academic accounting community. As such, they are responsible for setting the moral tone of the community and providing a nurturing environment in which ethical motivation and ethical behaviour can flourish”.

Finally, cognisance of some challenges that can have impact on the effectiveness of ethics education should also be taken. Davenport and Dellaportas (2009) noted that formal education process appears successful in transferring knowledge on the public interest, but appears to be less effective in teaching the mechanisms by which such knowledge is applied in practice. Thus Davenport and Dellaportas (2009) was of the view that greater emphasis regarding ethics should be allocated to the mechanisms by which the transfer of knowledge to the workplace becomes effective. Besides, balance should be strike to ensure that ethics education is not rule-based. According to Kermis and Kermis (n.d.), simply following the rules [including the code of ethics] is not sufficient in many situations, efforts should be made to ensure that accounting education train leaders of the profession who will be honest, trustworthy and of ultimate personal integrity.

IV. RESEARCH METHODOLOGY

The aim of the study was to measure the integration of ethics in the Malawian public accountancy curriculums. Thus the study sampled the old and revised curriculums of Malawian public accountancy education. As already shown in section two above, there are two statutory-established institutions offering accounting education in Malawi namely, Institute of Chartered Accountants in Malawi (ICAM) and the University of Malawi. ICAM offers a certificate in financial accounting and a diploma in accounting while the UNIMA offers bachelor of accountancy.

The study employed content analysis methodology. The study involved analysis of the three curriculums in order to measure integration of ethics. According to Sweeney and Coughlan (2011) content analysis is a study technique used to determine the presence of certain words or concepts within text. Furthermore, Krippendorf (1980) cited in Ahmad et al. (2003) highlighted that content analysis is a research technique for making replicable and valid inferences from data according to their context. Thus the syllabuses of each course/modules under each curriculum (both old and revised) were obtained and examined to find out whether ethics was explicitly or implicitly covered therein.

Since ethics can be integrated into the accounting curriculum either at the course level, or at the curriculum level (Shawver, 2006), the study made the analysis at both levels. At course level, the name of the course or module and their aims or objectives and indicative contents were analysed to determine whether the course/module could be regarded as a “stand-alone” ethics course/module. At curriculum level, the study involved word by word analysis of the syllabuses of each and every course or module.

In using the methodology, ethics was assumed to have been integrated in a particular syllabus if ethics or ethics related words are mentioned explicitly or implicitly taken within the context used. Thus, analysis involved identifying ethics related words such as ethics, ethical conduct/practice/behaviour, moral, morality, code of conduct and/or ethics, professional conduct, standards of behaviour, values, regulations, laws etc. The analysis was centred on evaluating particular syllabus’ description, aims/objectives, the intended learning outcomes and the indicative content.

V. FINDINGS AND DISCUSSIONS

This section presents the findings of the content analysis of the three curriculums and ensuing discussions.

a) Certificate level

i. Old curriculum

The content examination of the “old curriculum” of the Certificate in Financial Accounting suggested that ethics was not integrated in it. The curriculum had no stand-alone ethics module; and furthermore, a word by word analysis of the syllabuses of all the four courses (see TABLE 1) found no ethics related words or a context from which inference to cover of ethics could be made.

ii. Revised curriculum

Analysis of the “revised curriculum” indicated integration of ethics at curriculum level only as it has been integrated “Business Knowledge” course. The curriculum presents “corporate governance” as one of
the five major syllabus areas and one of its learning objectives is to “understand the role of governance in the management of the business”. Under these the learning outcomes include to:

- Identify main players for an effective governance structure, and how ethics cement such a culture; and
- State meaning of money laundering, corruption and fraud.

Furthermore in “Business Accounting” course an inference can be made of the intention to cover ethics. One of the learning outcomes of the course is for the students to demonstrate understanding of the regulation of accounting in Malawi. Specifically the students are required to:

1. Understand the evolution of the legal and regulatory environment affecting accounting in Malawi.
2. Understanding the current regulatory environment of accounting in Malawi, including the main agencies and instruments such as:
   i. The Malawi stock exchange.
   ii. the Institute of chartered accountants in Malawi (ICAM)
   iii. Malawi Accountants Board.
   iv. The companies and Taxation Acts.

These elements generally constitute the regulatory framework for ethics implementation and enforcement. It must also be noted that ICAM wholly adopted the International Federation of Accountants (IFAC) code of ethics. Thus it is expected that the discussion of the regulatory framework will include the ethics regime.

The analysis suggests that significant strides have been made to integrate ethics in the certificate curriculum; however there is still more room for improvement. Currently ethics is embedded within corporate governance and deduced from regulations. There is danger that it inevitably gets lost in other material (Williams and Elson, 2010). ICAM may consider upgrading ethics to be among the major syllabus areas.

b) Diploma level

i. Old curriculum

The analysis of the old diploma curriculum revealed that ethics was not integrated at course level as it did not have a stand-alone ethics course. However, a word by word analysis of the syllabuses of the all the twelve courses, revealed that ethics is only integrated in “auditing” course. Review of the auditing syllabus, indicated that ethics was covered under a topic called “legal and professional requirements of the auditor” which among other things covered “rules of professional conduct” and “auditor’s guidelines”. Furthermore the under a topic called “nature and purpose of audit” and the following aspects were covered:

1. The role of auditing guidelines.
2. Role of the Malawi Accountants Board and the Society of Accountants in Malawi.

This suggests that ethics is covered as “an appendage to an auditing course” (Wyatt and Gaa, 2004 cited in Shawver, 2006). Such integration in a single course may generally give impression that ethics is an issue of essence to auditing thus deemphasising its importance to other branches of accounting.

ii. Revised curriculum

The review of the revised diploma curriculum indicated that there still is no stand-alone ethics course. However a word by word analysis suggested that ethical issues have been integrated in four of the twelve courses. The courses are: “Accounting 1”, “Accounting 2”, “Auditing” and “Management”.

Similar to the “Business accounting” course under the certificate curriculum, one of the outcomes of “Accounting 1” course is for the students to demonstrate understanding of regulation of accounting in Malawi. Students are therefore required to:

Understand the evolution of the legal and regulatory environment affecting accounting in Malawi.

Understanding the current regulatory environment of accounting in Malawi, including the main agencies and instruments such as:

1. The Malawi stock exchange.
2. The institute of chartered accountants in Malawi
3. Malawi Accountants Board.
4. The companies and Taxation Acts.

The same regulatory issues are also covered in “Accounting 2” course such as understanding the role of the local regulatory system including institute of chartered accountants in Malawi (ICAM) and Malawi Accountants Board and the role of the Companies Act relating to governance issues in respect of financial reporting.

Furthermore, the revised “Auditing” course syllabus has incorporated relatively more ethics issues. One of the objectives of the course is for the student to understand the regulatory framework within which the accountancy profession operates. The learning outcome under this area requires the candidate to understand the importance of ethical behaviour and identify issues relating to: integrity, objectivity, competence, confidentiality and courtesy behaviour amongst other. Other issues include requiring the students to:

1. Explain the auditors’ responsibility and liability with respect to money laundering and other illegal acts or non-compliance with other relevant laws and regulations.
2. State the role of ethical code and identify features of the professional ethics adopted by the IFAC, and how they work in public interest.

3. Suggest courses of actions that may be taken to resolve ethical conflicts of interests relating to the ethical fundamental principles identified above.

4. State the importance of confidentiality, identifying the risk of accidental disclosure of client’s information, and stating exceptional cases when this may not apply.

5. Define objectivity and independence and recognise why those undertaking assurance engagement are required to be independent of their clients.

6. State to fundamental ethical principles and independence of assurance providers, as identified by the IFAC, and possible safeguard to eliminate or reduce such threats.

Finally, one of the learning objectives of the “Management” course is for the student to be able to “explain the ethical considerations in management”. The syllabus provides for ethics under “corporate governance” that has the following learning outcomes:

1. Define corporate governance.
2. Identify components of corporate governance.
3. Explain the concepts of whistle blowing.
4. Describe corporate governance practices.
5. Explain professional values and ethics.
6. Explain the strategies to manage social responsibility and ethics.

All in all the analysis above indicates that the revision of the curriculum was a step in right direction in terms of broadening ethics integration. It is thus incumbent on the educators effectively teach and the examiners to effectively assess. On the other hand there is still a need to improve the integration. Currently ethical issues are carrying very low weighting as they have been embedded within other areas. There is need to have ethics integrated a major syllabus area and its assessment should be emphasised.

c) Degree curriculum

i. Old curriculum

The analysis of the old degree curriculum showed that it had no stand-alone ethics course. Similar to the old diploma curriculum, ethics was only incorporated in auditing courses only. As shown in TABLE 3A, the old curriculum had two auditing courses namely; “Auditing I” and “Auditing II” which were taught in third and four years respectively.

The word by word analysis of the syllabuses, revealed that one of the aims of the “Auditing I” was “to ensure that students understand professional codes of ethics and behaviour”. Furthermore one of the main topics of the course was “Professional and Legal Requirements of the Audit and the Auditor”. Under the topic there were the following sub-topics namely:

1. Responsibility under statute and case law.
2. Independence.
3. Professional requirements.
4. Conduct and ethics.
5. Negligence.

On the other hand, one of the objectives of “Auditing II” was for the students to be able to “demonstrate their ability to work within a professional and ethical framework”. The course had two of the main topics covering ethics namely; “professional ethical consideration” and “current issues and developments”. Under “professional ethical consideration” the syllabus provided the following:

1. Professional responsibility and liability – covering issues such as fraud and error, professional liability (including negligence), misconduct, expectation gap, professional indemnity insurance and insider dealing.

2. Regulatory environment – covering issues such as corporate governance, Code of Best Practice, laws and regulations in an audit of financial statements and money laundering.

Whereas under “current issues and developments” the following ethics related issues were covered:

1. Professional ethics.
2. Corporate governance.
3. Fraud.

Thus the analysis of the old degree curriculum above suggested similar trend as found in relation to old diploma curriculum of incorporate ethics only in auditing courses.

ii. Revised curriculum

The analysis of new curriculum revealed both the course level integration and curriculum level integration. The revised curriculum has a stand-alone ethics module called “Corporate Governance and Ethics”. As exhibited by TABLE 3B, the course will be taught in the first semester of fourth year. The module descriptor in part states that the module:

“Introduces students to the concept of business ethics, an overview of major ethical issues that businesses face today and a discussion of moral philosophy through an understanding of classical and contemporary ethical theories”.

The aim of the module is “to equip students with knowledge and skills necessary to enable them to act ethically”. The ethics related learning outcomes include:
1. Discuss different ethical concepts, ethical philosophy and how each relates to the organisation.
2. Distinguish between Business Ethics and social responsibility.
3. Discuss the code of ethics for accountants.
4. Identify ethical issues in the context of business decision making.
5. Apply moral philosophies to Business Ethics.
6. Discuss the impact of the business environment on ethical decision making.

The indicative ethics related content includes;
1. Moral Philosophies in Business Ethics
2. Codes of ethics (SOCAM, ACCA, CIMA, IIA)
3. Ethical Decision-Making Frameworks
4. The Impact of the Business Environment on Ethical Decision Making
5. The Impact of Organizational Structure and Culture
6. The Influence of Significant Others in the Organization
7. The Role of Opportunity and Conflict
8. Controlling Business Ethics in the Organization
9. International Business Ethics

On the other hand, word by word analysis of the syllabuses of the all the other modules revealed five other modules with ethics embedded within them. These are “English for Academic Purposes II”, “Principles of Management”, “Corporate Law 1”, “Strategic Management” and “Auditing and Assurance Services”. The study revealed that syllabus for “English for Academic Purposes II” which is taught in second semester of the first year contains “ethics” and “ethical considerations” in its indicative content under as topic “composing various arguments”. On the other hand “Principles of Management” module taught in first semester of year three has a sub-topic under its introductory topic called “social responsibility and managerial ethics”. The “Corporate Law 1” module which is to be taught in first semester of third year has a learning outcome of ensuring that students are able to “make decisions based on principles of good corporate governance and business ethics”. Its indicative content has “principles of corporate governance and business ethics” as one of the main topics. Furthermore, indicative content of the “Strategic Management” a module to be taught in first semester of fourth year lists “business ethics” as one of the main topics. Finally, one of the intended outcomes of “Auditing and Assurance Services”, a module to be taught in first semester of the fourth year, is for the students to be able to explain how the audit environment affecting the auditor’s ethical behaviour and auditor independence. However, its indicative content does not have any specific topic expressly mentioning ethics.

All in all, the analysis indicates that the revision achieved significant improvements by facilitating ethics integration at both course and curriculum levels. As a result, ethics is no longer a mere appendage to auditing courses (Wyatt and Gaa, 2004 cited in Shawver, 2006). The curriculum has now a special stand-alone ethics module which according to Salleh and Ahmad (2012) tend to function as a capstone course, where the essence of ethics can be synthesised. On the other hand by embedding ethics in other courses too, provide the students with the awareness of the importance of ethics to every branch of the profession and to the business environment generally.

Improvements to the curriculum still are needed to ensure robust ethics integration. The modules explicitly embedding ethics must be increased. Currently only six (6) out of forty-eight (48) have ethics embedded. According to Albrecht et al. (2006) ethics must be embedded in every taught business course, be it accounting, marketing, finance, strategy or organisational behaviour and effort must be made to force students to face and resolve ethical dilemmas.

V. Conclusions

As recognised by Ho and Lin (2006), educational institutions have a role to play in increasing the likelihood that students will less likely to end up committing unethical acts; thus, they must make sure that teaching business ethics is an integral part of the curriculum. Thus the study recognises that ensuring that ethical propriety is entrenched in the student and that they are able to carry it over to the work practice needs serious effort by educators, professional bodies and students themselves. According to Ho and Lin (2006) it might be impractical to expect business ethics courses can significantly change students’ moral will and ethical behaviour. In other words mere integration ethics in accounting curriculum is not a magic button to all ethical challenges. Ho and Lin (2006) posited that “to make business ethics education more effective, ethics courses should act the role of guiding students and fostering students’ ability to deal with ethical issues which they will face somehow in their business careers”. Accounting educators therefore need to do their honest part in teaching future business professionals the importance of ethical development (Albrecht et al., 2006).

The study has endeavoured to analyse the Malawian public accounting educational curriculums in order to assess the integration of ethics. A comparative analysis between the old and revised curriculums was made in order to examine the impact of the revisions with regard to ethics integration. The analysis revealed notable improvements at curriculum level only with
regard to the certificate and diploma curriculums. On the other hand the degree level curriculum was improved both at curriculum and course levels. The study noted the need for continuous improvements to strengthen ethics education and to ensure that it remains relevant.

Generally the study has highlighted the current status of ethics integration in the public accountancy education in Malawi and areas that need improvements. The study serves as a reference for future studies. On the other hand the degree level curriculum was improved developing assessment standard and techniques. The study noted that the degree level curriculum was improved developing assessment standard and techniques to assist in making ethics is developing as such there seems to absence of a quality of ethics integration including teaching, learning and assessment approaches. Finally, the subject is ethics is developing as such there seems to absence of a standard curriculum and techniques to assist in making comparisons. Thus future study may also consider developing assessment standard and techniques.

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You must strictly follow above Author Guidelines before submitting your paper or else we will not at all be responsible for any corrections in future in any of the way.
Before start writing a good quality Computer Science Research Paper, let us first understand what is Computer Science Research Paper? So, Computer Science Research Paper is the paper which is written by professionals or scientists who are associated to Computer Science and Information Technology, or doing research study in these areas. If you are novel to this field then you can consult about this field from your supervisor or guide.

TECHNIQUES FOR WRITING A GOOD QUALITY RESEARCH PAPER:

1. Choosing the topic: In most cases, the topic is searched by the interest of author but it can be also suggested by the guides. You can have several topics and then you can judge that in which topic or subject you are finding yourself most comfortable. This can be done by asking several questions to yourself, like Will I be able to carry our search in this area? Will I find all necessary recourses to accomplish the search? Will I be able to find all information in this field area? If the answer of these types of questions will be "Yes" then you can choose that topic. In most of the cases, you may have to conduct the surveys and have to visit several places because this field is related to Computer Science and Information Technology. Also, you may have to do a lot of work to find all rise and falls regarding the various data of that subject. Sometimes, detailed information plays a vital role, instead of short information.

2. Evaluators are human: First thing to remember that evaluators are also human being. They are not only meant for rejecting a paper. They are here to evaluate your paper. So, present your Best.

3. Think Like Evaluators: If you are in a confusion or getting demotivated that your paper will be accepted by evaluators or not, then think and try to evaluate your paper like an Evaluator. Try to understand that what an evaluator wants in your research paper and automatically you will have your answer.

4. Make blueprints of paper: The outline is the plan or framework that will help you to arrange your thoughts. It will make your paper logical. But remember that all points of your outline must be related to the topic you have chosen.

5. Ask your Guides: If you are having any difficulty in your research, then do not hesitate to share your difficulty to your guide (if you have any). They will surely help you out and resolve your doubts. If you can’t clarify what exactly you require for your work then ask the supervisor to help you with the alternative. He might also provide you the list of essential readings.

6. Use of computer is recommended: As you are doing research in the field of Computer Science, then this point is quite obvious.

7. Use right software: Always use good quality software packages. If you are not capable to judge good software then you can lose quality of your paper unknowingly. There are various software programs available to help you, which you can get through Internet.

8. Use the Internet for help: An excellent start for your paper can be by using the Google. It is an excellent search engine, where you can have your doubts resolved. You may also read some answers for the frequent question how to write my research paper or find model research paper. From the internet library you can download books. If you have all required books make important reading selecting and analyzing the specified information. Then put together research paper sketch out.

9. Use and get big pictures: Always use encyclopedias, Wikipedia to get pictures so that you can go into the depth.

10. Bookmarks are useful: When you read any book or magazine, you generally use bookmarks, right! It is a good habit, which helps to not to lose your continuity. You should always use bookmarks while searching on Internet also, which will make your search easier.

11. Revise what you wrote: When you write anything, always read it, summarize it and then finalize it.
12. **Make all efforts:** Make all efforts to mention what you are going to write in your paper. That means always have a good start. Try to mention everything in introduction, that what is the need of a particular research paper. Polish your work by good skill of writing and always give an evaluator, what he wants.

13. **Have backups:** When you are going to do any important thing like making research paper, you should always have backup copies of it either in your computer or in paper. This will help you to not to lose any of your important.

14. **Produce good diagrams of your own:** Always try to include good charts or diagrams in your paper to improve quality. Using several and unnecessary diagrams will degrade the quality of your paper by creating "hotchpotch." So always, try to make and include those diagrams, which are made by your own to improve readability and understandability of your paper.

15. **Use of direct quotes:** When you do research relevant to literature, history or current affairs then use of quotes become essential but if study is relevant to science then use of quotes is not preferable.

16. **Use proper verb tense:** Use proper verb tenses in your paper. Use past tense, to present those events that happened. Use present tense to indicate events that are going on. Use future tense to indicate future happening events. Use of improper and wrong tenses will confuse the evaluator. Avoid the sentences that are incomplete.

17. **Never use online paper:** If you are getting any paper on Internet, then never use it as your research paper because it might be possible that evaluator has already seen it or maybe it is outdated version.

18. **Pick a good study spot:** To do your research studies always try to pick a spot, which is quiet. Every spot is not for studies. Spot that suits you choose it and proceed further.

19. **Know what you know:** Always try to know, what you know by making objectives. Else, you will be confused and cannot achieve your target.

20. **Use good quality grammar:** Always use a good quality grammar and use words that will throw positive impact on evaluator. Use of good quality grammar does not mean to use tough words, that for each word the evaluator has to go through dictionary. Do not start sentence with a conjunction. Do not fragment sentences. Eliminate one-word sentences. Ignore passive voice. Do not ever use a big word when a diminutive one would suffice. Verbs have to be in agreement with their subjects. Prepositions are not expressions to finish sentences with. It is incorrect to ever divide an infinitive. Avoid clichés like the disease. Also, always shun irritating alliteration. Use language that is simple and straightforward. put together a neat summary.

21. **Arrangement of information:** Each section of the main body should start with an opening sentence and there should be a changeover at the end of the section. Give only valid and powerful arguments to your topic. You may also maintain your arguments with records.

22. **Never start in last minute:** Always start at right time and give enough time to research work. Leaving everything to the last minute will degrade your paper and spoil your work.

23. **Multitasking in research is not good:** Doing several things at the same time proves bad habit in case of research activity. Research is an area, where everything has a particular time slot. Divide your research work in parts and do particular part in particular time slot.

24. **Never copy others’ work:** Never copy others’ work and give it your name because if evaluator has seen it anywhere you will be in trouble.

25. **Take proper rest and food:** No matter how many hours you spend for your research activity, if you are not taking care of your health then all your efforts will be in vain. For a quality research, study is must, and this can be done by taking proper rest and food.

26. **Go for seminars:** Attend seminars if the topic is relevant to your research area. Utilize all your resources.
27. **Refresh your mind after intervals**: Try to give rest to your mind by listening to soft music or by sleeping in intervals. This will also improve your memory.

28. **Make colleagues**: Always try to make colleagues. No matter how sharper or intelligent you are, if you make colleagues you can have several ideas, which will be helpful for your research.

29. **Think technically**: Always think technically. If anything happens, then search its reasons, its benefits, and demerits.

30. **Think and then print**: When you will go to print your paper, notice that tables are not be split, headings are not detached from their descriptions, and page sequence is maintained.

31. **Adding unnecessary information**: Do not add unnecessary information, like, I have used MS Excel to draw graph. Do not add irrelevant and inappropriate material. These all will create superfluous. Foreign terminology and phrases are not apropos. One should NEVER take a broad view. Analogy in script is like feathers on a snake. Not at all use a large word when a very small one would be sufficient. Use words properly, regardless of how others use them. Remove quotations. Puns are for kids, not grunt readers. Amplification is a billion times of inferior quality than sarcasm.

32. **Never oversimplify everything**: To add material in your research paper, never go for oversimplification. This will definitely irritate the evaluator. Be more or less specific. Also too, by no means, ever use rhythmic redundancies. Contractions aren’t essential and shouldn't be there used. Comparisons are as terrible as clichés. Give up ampersands and abbreviations, and so on. Remove commas, that are, not necessary. Parenthetical words however should be together with this in commas. Understatement is all the time the complete best way to put onward earth-shaking thoughts. Give a detailed literary review.

33. **Report concluded results**: Use concluded results. From raw data, filter the results and then conclude your studies based on measurements and observations taken. Significant figures and appropriate number of decimal places should be used. Parenthetical remarks are prohibitive. Proofread carefully at final stage. In the end give outline to your arguments. Spot out perspectives of further study of this subject. Justify your conclusion by at the bottom of them with sufficient justifications and examples.

34. **After conclusion**: Once you have concluded your research, the next most important step is to present your findings. Presentation is extremely important as it is the definite medium though which your research is going to be in print to the rest of the crowd. Care should be taken to categorize your thoughts well and present them in a logical and neat manner. A good quality research paper format is essential because it serves to highlight your research paper and bring to light all necessary aspects in your research.

**INFORMAL GUIDELINES OF RESEARCH PAPER WRITING**

**Key points to remember:**

- Submit all work in its final form.
- Write your paper in the form, which is presented in the guidelines using the template.
- Please note the criterion for grading the final paper by peer-reviewers.

**Final Points:**

A purpose of organizing a research paper is to let people to interpret your effort selectively. The journal requires the following sections, submitted in the order listed, each section to start on a new page.

The introduction will be compiled from reference matter and will reflect the design processes or outline of basis that direct you to make study. As you will carry out the process of study, the method and process section will be constructed as like that. The result segment will show related statistics in nearly sequential order and will direct the reviewers next to the similar intellectual paths throughout the data that you took to carry out your study. The discussion section will provide understanding of the data and projections as to the implication of the results. The use of good quality references all through the paper will give the effort trustworthiness by representing an alertness of prior workings.

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Writing a research paper is not an easy job no matter how trouble-free the actual research or concept. Practice, excellent preparation, and controlled record keeping are the only means to make straightforward the progression.

**General style:**

Specific editorial column necessities for compliance of a manuscript will always take over from directions in these general guidelines.

To make a paper clear

· Adhere to recommended page limits

Mistakes to evade

- Insertion a title at the foot of a page with the subsequent text on the next page
- Separating a table/chart or figure - impound each figure/table to a single page
- Submitting a manuscript with pages out of sequence

In every sections of your document

· Use standard writing style including articles ("a", "the," etc.)

· Keep on paying attention on the research topic of the paper

· Use paragraphs to split each significant point (excluding for the abstract)

· Align the primary line of each section

· Present your points in sound order

· Use present tense to report well accepted

· Use past tense to describe specific results

· Shun familiar wording, don’t address the reviewer directly, and don’t use slang, slang language, or superlatives

· Shun use of extra pictures - include only those figures essential to presenting results

**Title Page:**

Choose a revealing title. It should be short. It should not have non-standard acronyms or abbreviations. It should not exceed two printed lines. It should include the name(s) and address(es) of all authors.
Abstract:

The summary should be two hundred words or less. It should briefly and clearly explain the key findings reported in the manuscript—must have precise statistics. It should not have abnormal acronyms or abbreviations. It should be logical in itself. Shun citing references at this point.

An abstract is a brief distinct paragraph summary of finished work or work in development. In a minute or less a reviewer can be taught the foundation behind the study, common approach to the problem, relevant results, and significant conclusions or new questions.

Write your summary when your paper is completed because how can you write the summary of anything which is not yet written? Wealth of terminology is very essential in abstract. Yet, use comprehensive sentences and do not let go readability for briefness. You can maintain it succinct by phrasing sentences so that they provide more than one rationale. The author can at this moment go straight to shortening the outcome. Sum up the study, with the subsequent elements in any summary. Try to maintain the initial two items to no more than one ruling each.

- Reason of the study - theory, overall issue, purpose
- Fundamental goal
- To the point depiction of the research
- Consequences, including definite statistics - if the consequences are quantitative in nature, account quantitative data; results of any numerical analysis should be reported
- Significant conclusions or questions that track from the research(es)

Approach:

- Single section, and succinct
- As a outline of job done, it is always written in past tense
- A conceptual should situate on its own, and not submit to any other part of the paper such as a form or table
- Center on shortening results - bound background information to a verdict or two, if completely necessary
- What you account in an conceptual must be regular with what you reported in the manuscript
- Exact spelling, clearness of sentences and phrases, and appropriate reporting of quantities (proper units, important statistics) are just as significant in an abstract as they are anywhere else

Introduction:

The Introduction should "introduce" the manuscript. The reviewer should be presented with sufficient background information to be capable to comprehend and calculate the purpose of your study without having to submit to other works. The basis for the study should be offered. Give most important references but shun difficult to make a comprehensive appraisal of the topic. In the introduction, describe the problem visibly. If the problem is not acknowledged in a logical, reasonable way, the reviewer will have no attention in your result. Speak in common terms about techniques used to explain the problem, if needed, but do not present any particulars about the protocols here. Following approach can create a valuable beginning:

- Explain the value (significance) of the study
- Shield the model - why did you employ this particular system or method? What is its compensation? You strength remark on its appropriateness from a abstract point of vision as well as point out sensible reasons for using it.
- Present a justification. Status your particular theory (es) or aim(s), and describe the logic that led you to choose them.
- Very for a short time explain the tentative propose and how it skilled the declared objectives.

Approach:

- Use past tense except for when referring to recognized facts. After all, the manuscript will be submitted after the entire job is done.
- Sort out your thoughts; manufacture one key point with every section. If you make the four points listed above, you will need a least of four paragraphs.

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Present surroundings information only as desirable in order hold up a situation. The reviewer does not desire to read the whole thing you know about a topic.

Shape the theory/purpose specifically - do not take a broad view.

As always, give awareness to spelling, simplicity and correctness of sentences and phrases.

Procedures (Methods and Materials):

This part is supposed to be the easiest to carve if you have good skills. A sound written Procedures segment allows a capable scientist to replacement your results. Present precise information about your supplies. The suppliers and clarity of reagents can be helpful bits of information. Present methods in sequential order but linked methodologies can be grouped as a segment. Be concise when relating the protocols. Attempt for the least amount of information that would permit another capable scientist to spare your outcome but be cautious that vital information is integrated. The use of subheadings is suggested and ought to be synchronized with the results section. When a technique is used that has been well described in another object, mention the specific item describing a way but draw the basic principle while stating the situation. The purpose is to text all particular resources and broad procedures, so that another person may use some or all of the methods in one more study or referee the scientific value of your work. It is not to be a step by step report of the whole thing you did, nor is a methods section a set of orders.

Materials:

- Explain materials individually only if the study is so complex that it saves liberty this way.
- Embrace particular materials, and any tools or provisions that are not frequently found in laboratories.
- Do not take in frequently found.
- If use of a definite type of tools.
- Materials may be reported in a part section or else they may be recognized along with your measures.

Methods:

- Report the method (not particulars of each process that engaged the same methodology)
- Describe the method entirely
- To be succinct, present methods under headings dedicated to specific dealings or groups of measures
- Simplify - details how procedures were completed not how they were exclusively performed on a particular day.
- If well known procedures were used, account the procedure by name, possibly with reference, and that's all.

Approach:

- It is embarrassed or not possible to use vigorous voice when documenting methods with no using first person, which would focus the reviewer’s interest on the researcher rather than the job. As a result when script up the methods most authors use third person passive voice.
- Use standard style in this and in every other part of the paper - avoid familiar lists, and use full sentences.

What to keep away from

- Resources and methods are not a set of information.
- Skip all descriptive information and surroundings - save it for the argument.
- Leave out information that is immaterial to a third party.

Results:

The principle of a results segment is to present and demonstrate your conclusion. Create this part a entirely objective details of the outcome, and save all understanding for the discussion.

The page length of this segment is set by the sum and types of data to be reported. Carry on to be to the point, by means of statistics and tables, if suitable, to present consequences most efficiently. You must obviously differentiate material that would usually be incorporated in a study editorial from any unprocessed data or additional appendix matter that would not be available. In fact, such matter should not be submitted at all except requested by the instructor.

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Content

- Sum up your conclusion in text and demonstrate them, if suitable, with figures and tables.
- In manuscript, explain each of your consequences, point the reader to remarks that are most appropriate.
- Present a background, such as by describing the question that was addressed by creation an exacting study.
- Explain results of control experiments and comprise remarks that are not accessible in a prescribed figure or table, if appropriate.
- Examine your data, then prepare the analyzed (transformed) data in the form of a figure (graph), table, or in manuscript form.

What to stay away from

- Do not discuss or infer your outcome, report surroundings information, or try to explain anything.
- Not at all, take in raw data or intermediate calculations in a research manuscript.
- Do not present the similar data more than once.
- Manuscript should complement any figures or tables, not duplicate the identical information.
- Never confuse figures with tables - there is a difference.

Approach

- As forever, use past tense when you submit to your results, and put the whole thing in a reasonable order.
- Put figures and tables, appropriately numbered, in order at the end of the report.
- If you desire, you may place your figures and tables properly within the text of your results part.

Figures and tables

- If you put figures and tables at the end of the details, make certain that they are visibly distinguished from any attach appendix materials, such as raw facts.
- Despite of position, each figure must be numbered one after the other and complete with subtitle.
- In spite of position, each table must be titled, numbered one after the other and complete with heading.
- All figure and table must be adequately complete that it could situate on its own, divide from text.

Discussion:

The Discussion is expected the trickiest segment to write and describe. A lot of papers submitted for journal are discarded based on problems with the Discussion. There is no head of state for how long a argument should be. Position your understanding of the outcome visibly to lead the reviewer through your conclusions, and then finish the paper with a summing up of the implication of the study. The purpose here is to offer an understanding of your results and hold up for all of your conclusions, using facts from your research and generally accepted information, if suitable. The implication of result should be visibly described. Infer your data in the conversation in suitable depth. This means that when you clarify an observable fact you must explain mechanisms that may account for the observation. If your results vary from your prospect, make clear why that may have happened. If your results agree, then explain the theory that the proof supported. It is never suitable to just state that the data approved with prospect, and let it drop at that.

- Make a decision if each premise is supported, discarded, or if you cannot make a conclusion with assurance. Do not just dismiss a study or part of a study as "uncertain."
- Research papers are not acknowledged if the work is imperfect. Draw what conclusions you can based upon the results that you have, and take care of the study as a finished work.
- You may propose future guidelines, such as how the experiment might be personalized to accomplish a new idea.
- Give details all of your remarks as much as possible, focus on mechanisms.
- Make a decision if the tentative design sufficiently addressed the theory, and whether or not it was correctly restricted.
- Try to present substitute explanations if sensible alternatives be present.
- One research will not counter an overall question, so maintain the large picture in mind, where do you go next? The best studies unlock new avenues of study. What questions remain?
- Recommendations for detailed papers will offer supplementary suggestions.

Approach:

- When you refer to information, differentiate data generated by your own studies from available information.
- Submit to work done by specific persons (including you) in past tense.
  - Submit to generally acknowledged facts and main beliefs in present tense.
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- Do not give permission to anyone else to “PROOFREAD” your manuscript.

- Methods to avoid Plagiarism is applied by us on every paper, if found guilty, you will be blacklisted by all of our collaborated research groups, your institution will be informed for this and strict legal actions will be taken immediately.)

- To guard yourself and others from possible illegal use please do not permit anyone right to use to your paper and files.
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