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An Enhanced Web-Enabled Rank Analysis of Commercial Companies

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Abstract: This study examined the usefulness of financial ratios in making investment decisions and also the vitality of the internet in publishing the results of such analysis. It reviewed existing commercial companies rating providers and consequently designed enhanced rating software based on the shortcomings discovered in the observed rating services. Published financial statements of public quoted companies in the Nigerian Stock Exchange were used as samples while PHP and MySQL were used to design the web-enabled software. The proposed rating software is user-friendly and use simple language in reporting the results of its ratings.

Key words: Commercial companies, inuestment, financial ratio

INTRODUCTION

The application of computerized solutions has moved from just being computational tools to man-made machine communication and providing a good ground for creating an enabled decision support system. Every business must have an information system to fulfill the internal information needs of management through provision of business activity control tools and the external information needs of various individuals and organization.

Investors strive to find companies with business strategies that would allow them to achieve high levels of growth, shareholder want to be sure the company they are about transacting with is able pay its debt which would not lead it to bankruptcy, the company has enough cash in hand and in summary is in good state of health. For example 'which of PZ and UAC do I buy shares from'? These are all problems that the computer would find a computerized solution to.

Igben[1] stated that the evaluation and assessment of an organization through a computerized solution is to be able to provide easy, efficient and efficient means of determining the worth of such organization within its industry and the business world. The worth of an organization is a critical parameter when making investment decision. Thus a potential investor's need would be met when the information that enable him make good and wise investment decision as regards stocks to purchase is easily accessible and available.

An effective method is to rank companies operating within the same industry using standard tools of assessment and evaluation. Brealey and Myers[2] stated that the generally accepted assessment and evaluation tool for such task is a set of ratios collectively known as financial ratios.

Ranking was initiated to reduce the risk of transacting with industries of poor financial standard and to determine how the companies are fairing in different areas of their specifications. Usually the various areas of their specification include:

- Financial areas, e.g profitability areas, dividend policy, product leadership, market share and productivity;
- Area of social responsibility, e.g employee Attitude, public responsibility, employment of disabled persons, personnel training and development.

There are a number of business ratings which is usually done by Ratio analysis. Potential lenders and investors will use the business ratio to assess the relative health of their business. Ratio analysis is a useful management tool because it helps to identify positive and negative trends in business performance.

Financial Ratio is compiled by taking numbers from a business financial statements and converting them into meaningful relationships and indicators of the financial performance of the business. Although the financial statement is an historical report, the intent is clearly to arrive at recommendations and forecasts for the future rather provide 'a picture of the past'.

These financial ratios are expressed either as a times multiple (x) or a percentage (%). Calculating financial ratios covering the current and fiscal year or periods of a

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business and the comparing against each other or comparative industry averages for the same time period will provide an insight into the business's financial condition and operational performance.

Generally, financial ratios are categorized into five sections: Liquidity, debt, profitability, cash flow and market measurability. The main purpose of all financial analysis is to determine the financial effect on a business based on current, past and possible future managerial business decisions. The most important point is that every business must determine their own needs and obtain the best possible financial information so that their operations may be analyzed to whatever degree deemed appropriate.

The analysis is therefore put on a website which is purposefully developed for this purpose. The website created for the analysis would provide a means of disseminating information all over the globe which makes the information provided on decision making by financial analysis available to the global world.

Ratio analysis: Ratio analysis was defined by Igben[1] as a proportion or fraction or percentage expressing the relationship between one item in a set of financial statement. For our purpose; a financial statement has to be understood in order to identify unfavorable trends and tendencies in business operations before the situation becomes critical monitor important indicators of financial health, monitors performance against financial plan, determine financial effects on a business based on current, past and possible future managerial business decisions. Thus ratio analysis (financial analysis) is a means by which financial statements would be evaluated to generate information for users (both internal and external) on financial statement.

Internal comparison/intra company analysis/trend analysis: This is the analysis of performance and result within a business organization. It may involve the comparison of one company with another company and the comparison of current performance with past and budgeted performance. This type of analysis discloses growth and decline as well as trends.

External comparison/inter company analysis/cross sectional analysis: Portland state university library stated that for the external comparison of the performance of business organizations to be meaningful, the companies should share common characteristics like industry, size, age, and accounting policies. This analysis discloses the strength of weakness of a company or industry vis-à-vis the others. This paper focused on the external comparison companies with common characteristics and also under the same sector

Financial ratios: Brealey and Myers[2] said that financial ratio is a convenient way to summaries large quantities of financial data and to compare firm's performances. Business also defined financial analysis as a means to determine the financial effect on a business based on current, past and possible future managerial business decisions since all aspects of a business are interrelated. It was also stated that it is imperative for accurate measurement to be taken in financial operations to determine the future courses of action in order to make the best possible financial decisions. The Portland state university library also contributed to the definition of financial ratio by defining it as a ratio used to compare a company's performance over time or to measure a company's performance within its specific industry.

Types of financial ratio: Ratios have been discovered to indicate how a business is performing and provide indications of trends and patterns. Ratios are published for many business sectors which can be used as a comparison. In this section the different types are described:

Profitability ratio: Danny[3] defined profitability ratio as a measure of profit relative to revenue or an invested amount of money. Brealy and Myers[2] stated that profitability ratio can be used to interpret the fact that a firm has a high ratio of profit to sales and also to interpret that when the firm charges higher prices which may lead to a bad sign if it is trying to expand sales volume. It also helps to ask questions like why we have a low volume or high-markup business for sales. These profitability ratios help to determine how good a business is in investment. These ratios include the Net Profit Margin, Return on capital employed, Return on equity and Rate of return on common equity.

Efficiency or turnover ratio: Danny[3] defined efficiency ratio as the ratio that reflect how well the firm's asset are been managed and how effectively the business is using its assets "using" liquidity or profitability or performance. Business finance information incorporation also contributed to the efficiency ratio at business owner toolkit by defining the turnover ratio as the most basic and fundamental tool for controlling investment in inventory.

The efficiency ratio looks at your entire inventory. It helps to decide if your investment in an inventory is excessive, too low or just right. From a cash flow perspective, performing turnover analysis is particularly useful for inventory items that are overstocked. According to Igben[1] inventory is the amount of merchandise, parts, supplies, other goods your business keeps on hand to meet the demands of your customers depending on the nature of your business (i.e. retail, whole sale, service, manufacturing). The efficiency of your inventory management may have a significant impact on your cash flow and purposes such as paying bills. This turnover analysis also requires that you know the number of inventory items sold on an individual basis. These efficiency ratios can be divided into sub-ratios which are Operating asset turnover and Days sales in inventories.

Market value ratio: Igben[1] says that. market ratio such as price earnings ratio shows the embedded value in stocks and is used by the investors as a screening device before making their investment. It also determines the value or performance of the company's stock value. These ratios include Earnings Per Share (EPS), Price Earning Ratio (PE) and Dividend yield.

Leverage ratios: This ratio shows firm's reliance on external debt for financing (or the degree of leverage) any number above 100 % shows that the company relies on external debt for financing some of its assets. Alternatively if the number equals 100%, it implies that the assets are fully financed by the shareholders. For a lender, more important than the degree of leverage is the firm's ability to service the debt and this is captured in the interest coverage ratio and the cash flow coverage ratio.

Number above 100% = Company relies on external debt for financing some of its assets.

Number equal 100% = The asset is fully financed by the shareholder.

Igben[1] stated that financial leverage presents a risk/return opportunity. Shareholders may magnify their earnings/returns by the use of fixed cost financing but, on the other hand, debt is a fixed cost, contractual commitment to pay regardless of the asset-earning rate.

Liquidity ratios: This is probably the most commonly used of all the business ratios. Creditors may often be particularly interested in these ratios because they show the ability of your business to quickly generate the cash needed to pay your bills. Small business service organization stated that a business should always have enough current assets (e.g., stock, work in progress, debtors, cash in the bank and so on.) to cover current liabilities (e.g., bank overdraft, creditors and so on).

Liquidity ratios indicate the ability of the business to meet liabilities with the assets available. This ratio is usually what the creditors of such business are interested in. This information is highly interesting to creditors since the inability to meet short term debts would be a problem that deserves immediate attention. This type of ratio is sometimes called working capital ratio because that is what they measure. These ratios also measure the short run ability of the company to pay its maturing obligation. The Liquidity ratios are the current ratio and the quick ratio.

Importance of financial analysis: To have a clear understanding of how your business is doing financially to predict and plan for the future, a fairly through understanding of the financial analysis because:

- Financial Analysis will help to identify unfavorable trend and tendencies in business's operations before the situation becomes critical.
- Financial Analysis helps to know whether a company is likely to pay its debts or not.
- Financial analysis helps to understand what makes the firm up to standard in terms of the health of the firm, valuable clues and rating on a new issue of bond. It also helps to monitor important indicators of financial health.
- Financial analysis also helps to monitor the cash flow requirements on a timely basis and identify financing needs early.

Historical review of international credit rating agencies: A credit rating agency is a firm that provides its opinion on the creditworthiness of an entity and the financial obligations (such as, bonds, preferred stock and commercial paper) issued by an entity. Generally, credit ratings distinguish between investment grade and non-investment grade. For example, a credit rating agency may assign a triple A credit rating as its top "investment grade" rating for corporate bonds and a "double B" credit rating or below for "non-investment grade" or "high-yield" corporate bonds. Three of the world most recognized credit rating agencies are Standard and Poor's, Moody's Investor Service, Fitch Ratings. They assign domestic and external ratings at the borrower's request. Each of them is present in most of the countries and has a universal rating scale.

Standard and Poor's was established in 1860 by Henry Varnum Poor. The agency's founding principle was the investor has the right to know. The company provided independent financial analysis and information worldwide. In 1906, Standard Statistics Bureau Company was formed to provide previously unavailable financial information on US companies. In 1916, Standard Statistics Bureau began to assign debt ratings to corporate bonds and sovereign debt. Municipal bond ratings have been introduced in 1940.

In 1941, Poor's Publishing and Standard Statistics merged to form the Standard and Poor's Corporation. In 1966, The McGraw-Hill Companies, Inc. acquired Standard and Poor's. Today Standard and Poor's is a division of Corporation, which provides financial consulting, credit ratings, numerous analytical materials on securities, companies, banks (Bond Guide, Earnings Forecaster, New Issue Investor, Stock Guide, Analyst's Handbook, Corporation Records, Poor's Register, Securities Dealers of North America). Now the company has 21 offices and 1,200 analysts, including some of the world's foremost economists.

Moody's investor service: A leading global credit rating, research and risk analysis firm that publishes credit opinions, research and ratings on fixed-income securities, issuers of securities and other credit obligations.

The company was established in New York by John Moody in 1900. Initially John Moody and Company published Moody's Manual of Industrial and Miscellaneous Securities. The manual provided information and statistics on stocks and bonds of financial institutions, government agencies, manufacturing, mining, utilities and food companies.

In 1909, Moody's Analysis of Railroads Investments described for readers the analytic principles that Moody used to assess railroad's operations, management and finance. In 1913, the company expanded its base of analyzed companies, launching the evaluation of industrial companies and utilities. The Moody's ratings have become a factor in the bond market. On July 1st, 1914, Moody's Investor Service was incorporated.

By 1924, Moody's ratings covered nearly 100% of the US bond market. Moody's continued to publish and monitor ratings during the Great Depression. In the 1970s, the Moody's ratings were further extended to the commercial paper market and to bank deposits. Now, Moody's Corporation comprises two subsidiaries: Moody's Investors Service and Moody's KMV. The corporation, which had reported revenue of $1.0 billion in 2002, employs approximately 2,100 people worldwide and maintains offices in 18 counties. Moody's Investors Service is among the world's most respected, widely utilized sources for credit ratings, research and risk analysis. The firm regularly publishes market-leading credit opinions, deal research and commentary that reach more than 3,000 institutions and 20,000 subscribers around the globe.

Moody's has actively built alliances with leading local credit ratings agencies worldwide, such as Korea Investors Service (Korea), Dagong Global Credit Rating Co. (People's Republic of China), ICRA Ltd. (India), Clasificadora de Riesgo Humphreys Limitada (Chile), Humphreys Argentina S.A. (Argentina) and also Interfax in Russian Federation.

Fitch ratings: (www.fitchrating.com)[4] Agency provides credit ratings to corporate, municipal bonds, preferred stocks, commercial paper and to non-commercial organizations. Fitch Ratings was founded as the Fitch Publishing Company on December 24th, 1913 by John Knowles Fitch in New York City. The Fitch Publishing Company began as a publisher of financial statistics whose consumers included the New York Stock Exchange. Soon Fitch became the recognized leader in providing critical financial statistics to the investment community through such publications as the Fitch Bond Book and the Fitch Stock and Bond Manual.

In 1924, Fitch introduced the now familiar AAA to D ratings scale to meet the growing demand for independent analysis of financial securities. Fitch was one of the three rating agencies first recognized as a nationally recognized statistical rating organization (NRSRO) by the Securities and Exchanges Commission in 1975. In 1997, Fitch merged with IBCA Limited, headquartered in London, increasing Fitch's worldwide presence in banking, financial institutions and sovereigns. Through the merger with IBCA, Fitch became owned by FIMALAC, Paris, a holding company, which acquired IBCA in 1992.

The next step in building Fitch into a global competitor was the acquisition of Duff and Phelps Credit Rating Co., headquartered in Chicago, in April, 2000 followed by the acquisition later that year of the rating business of Thomson BankWatch. These acquisitions strengthened Fitch's coverage in the corporate, financial institution, insurance and structured finance sectors.

Fitch has a rating presence in 75 countries and 40 offices worldwide. It today has 1,300 employees, including 725 analysts. Fitch currently covers 2,300 banks and financial institutions, 1,000 corporates and maintains surveillance on 3,300 structured financings and 17,000 municipal bond ratings in the US tax-exempt market. Fitch also rates over 700 insurance companies plus 70 sovereigns. Fitch has dual headquarters in New York and London.

These three leading international rating agencies have established a universal and open methodology of drawing up the rating reports and immaculate reputation.

Because of that, assigned ratings have great meaning to investors. Reputation for rating agencies is very important because rating conclusion is subjective opinion of rating agency. Activities of rating agency are public and all the necessary information on rating decisions is available on the Internet. (kazkommerts securities, www.kazakhstaninvestment.com)[5].

Comparative analysis of existing rating services: Some credit rating agencies whose credit ratings are used under the SEC's regulations are known as Nationally Recognized Statistical Rating Organizations or NRSROs. There are different institutions involved in financial rating all over the world with different approaches and they include Pharez (West Africa), Augustos and co (Nigeria) and FISH (America) and many others. The Table 1 below describes the rating of a Nigerian bank by these agencies:

Table 2 above illustrates the rating style adopted by Japan Credit Rating agency. These ratings were not detail in terms of provision of financial information that would enable an investor to carry out independent financial assessment of a commercial organization. With the recent wave of 'global' recapitalization of commercial companies in Nigeria, more people especially those with little financial education have become stakeholders in these companies. Besides, financial analysts, would also need detail financial information to determine the performance of these companies. The rating style though good for the executive and those who are conversant with them, would better serve the entire investment community if the interests of all the subsets are taken care of.

The assessment of the business involves a study of the conditions and environment under which a company operates. The objectives of the study include:

- To develop and internalize high ethical standard for operators in this sub-sector for critical and unbiased ratings and analysis of company.
- To examine trends in the company's profitability, efficiency in employing capital, financing capability and other factors that the analyst considers important.
- To provide an international business information website that would provide business information on the key economies in the global world and to enable external parties such as investors or lenders to assess the creditworthiness and profitability of the firm.

Table 1: Rating of a nigerian bank

S.No.	Rating agency	Rating
1	Augusto and Co. 2005	Aaa
2	Augusto and Co. 2004	Aaa
3	Pharez risk rating 2003	Aaa
4	Global credit rating	AA+
5	Fitch rating 2003	AA-

Table 2: Japan credit rating agency Ltd (JCR) rating style

Issuer	New ratings	Reviewed
Renault S. A	-	A
Nissan chemical industries	-	A-/Positive
Itochu	A+/Stable	A =>A+
J-1		
Itochu	-	A =>A+
Itochu international	-	A =.>A+

MATERIALS AND METHODS

The materials for this research include financial statements of the various chosen industries in Nigeria. This was collected from the Nigerian Stock Exchange Ibadan. Quoted and marketable securities are stocks with market price. Information on quoted stocks are available in most newspapers or from stockbrokers. Most quoted companies have a history in the stockbrokers which can be easily obtained through a visit or call to any stockbroker. These were the companies used for the research.

The Nigerian Stock Exchange divided industries on sectorial basis. In each sector we have companies that manufacture like-products. For the purpose of this project ten different companies were selected in each of the sectors and two companies under each sector were used as reference for comparison. The Table 3 shows sectorial division of industry and the companies chosen for research on the comparison.

The quoted companies were much easier to use for this project. It was discovered that these companies were quite much so the samples used for this project are the companies in the table above. In all we have a number of twenty companies chosen from ten different sectors.

Their year 2003 financial statement were used to carry out analysis that involves analyzing the firm's financial statements to extract information that can facilitate decision-making, it is also defined as a means of communicating to interested parties, information on the resources, obligations and performances on the reporting entity. This financial statement made available all the parameters needed for rating the various companies PHP (acronym for: PHP Hypertext Preprocessor), a server-side embedded scripting language was used to design the websites which serves as the front-end. PHP was chosen because of its simplicity, robustness of the language and the scripting engine and easy integration with databases.

Table 3: Sectorial analysis of sampled companies

Sector	Company 'A'	Company 'B'
Automobile and tyre	Dunlop nigeria plc	R. T. bricode Plc
banking	First bank	Union bank
Health care	May and baker nigeria Plc	Phama deko Plc
Insurance	Cornerstone insurance	Unic insurance
Textiles	Asaba textile mill Plc.	Afprint nigeria Plc.
Petroleum	Texaco (Nig.) PLc	AP
Construction	costain (WA) Plc	Julius berger nig. Plc
Conglomerates	PZ industries Plc.	UAC nigeria Plc
Chemical and paints	DN meyer Plc	CAP plc
Cement	West portland cement	Northern nigeria cement

Fig. 1: Users log-in page

A modern web site is not just a web server; it also includes a way of storing and querying database. Thus providing users with convenient means of processing their requests and creating documents with the appropriate information. MySQL, a relational database management system that enabled structured collection of data was used as the back-end. To add, access and process data stored in a computer database, you need a database management system such as MySQL Server.

Presentation of findings: The need to be able to supply financial information to people of diverse interest has become imperative. This was made possible with the present development in the networking world especially with the growth of the internet. This website is meant to help investors, companies, shareholders, individuals, entrepreneur etc. to know the health condition of the company; they are about transacting with before making investment decisions by using financial ratios to compare the companies. The website created has five pages which includes the following:

- Log-in page
- Activity page
- Comparison page
- Administration page

Home page: The home page Fig. 1 contains links to other web pages. Here the user logs in with the registered password or the user can decide to change the password by clicking on 'REGISTER' instead of 'GO' on each of these pages. Photoshop was used to create the picture and the border above.

Activity page This page Fig. 2 brings up a box where we have the search by sector, companies and edit your profile. The function of each of these includes:

- Search by sector-This is where you click to get a view of all sectors and choose that you would desire to view. Therefore, you click here to choose the desired sector.
- Companies-This is where you get a view of all companies and choose companies that you desire to compare.

- Edit your profile-This is where you change your information that is on the database.

Search by sector page: The sectors already incorporated are brought when the search by sector link is clicked. Now the sectors selected as a sample for this work are displayed Fig. 3.

Company page: Selecting one of the sectors displays the companies chosen as sample for this work Fig. 4. Clicking one of the links brings up a display of the already entered data about the company. Then scrolling down there is a button of Add to compare Fig. 5.

Comparison page: To compare a company with another company under the same conglomerate, the user clicks on the Add to company Fig. 6. Then we discover some ratios listed i.e. liquidity, financial leverage, profitability etc Fig. 7-10.

Here each of these (i.e. liquidity, financial leverage, profitability and market value) ratio is clicked-on to have a result of the comparison of R. T. Briscoe and Dunlop.

RESULTS AND DISCUSSION

The main focus of this study is to design financial information rating system website that would provide business information on the key economies in the global world which would help a lot of people in the business world e.g. shareholders, business men, investors, in knowing the health condition of the company they are transacting with before transacting business by using the financial ratios fro comparison.

A review of literature was carried out revealing that existing raring services never gave full detail of comparison. It was discovered that a rating service provider, Augusto give the result of their rating using Symbols like A, B, C, D, Aa and Bb and then rate using percentage based on the symbols. Such service is elitist in nature because it does not take shareholders or investors (people with little or no knowledge about financial ratio analysis) into considerations.

A web enabled rating application was developed using PHP codes, MySQL, Apache web server which employed the use of links, tables and domains. As a result, this study shows an improvement on the analysis of the existing rating companies. Basically the program includes the ratios that were made hidden by other rating agencies (in their rating analysis) and also a good summary with details of the result are well displayed on these site which was not done by the other companies. This website was created in a way that a shareholder, businessmen, investors etc. can view the reason for deciding to invest on the chosen company.

CONCLUSION

Based on the result obtained, it was discovered that some companies are better than the others through the comparison done using financial ratios (The result is based on 2003 financial statement which would be different in 2005). The following were discovered during the research: UAC is worth investing in than PZ in terms of the obligations to be meet, money at hand (cash and marketable securities), more profitable, higher earnings and shareholders will have a higher dividend and smaller debt indicating a healthy company.

It was discovered that companies that are better transacting with are not the most popular but what determines the result is the outcome of the financial ratio of the year under considerations.

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