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Dear authors:
Based on positive reviews, I have the pleasure to accept your co-authored paper entitled, The impact of extensible business reporting language education and adoption on stock exchange development: A focus on Nigeria for presentation at the 2014 international conference of Business and Applied Sciences Academy of North America (BAASANA) scheduled to be held at Ramapo College of New Jersey, USA during June 19-21, 2014. Congratulations! This acceptance is contingent upon your official registration and presentation of the paper at the conference.

In order for your paper to be included in the conference program, please complete the attached registration form and pay the regular registration fee as soon as possible. To include your paper in the official proceedings of the conference, please follow the manuscript guidelines available at www.baasana.org and proofread the paper for possible grammar, composition, typos, and punctuation errors and submit the same by June 1, 2014. Thank you.

I look forward to meeting you at Ramapo College, New Jersey, USA

Sincerely,

Dr. John Okpara
Professor of Management and Chair, Department of Management and Marketing
Program Chair, 2014 BAASANA International Conference
Bloomsburg University of Pennsylvania
Bloomsburg, PA 17815, USA

Copy: BAASANA File
Atts: Registration Form
THE IMPACT OF EXTENSIBLE BUSINESS REPORTING LANGUAGE EDUCATION AND ADOPTION OF STOCK EXCHANGE DEVELOPMENT: A FOCUS ON NIGERIA

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Abstract
The growing need for widely available and easily accessible financial information in the financial markets has prompted the necessity for the knowledge and adoption of Extensible Business Reporting Language (XBRL) as the standard format for presenting financial reports across the globe. The impact of an efficient information distribution system like the Extensible Business Reporting Language (XBRL) could help protect creditors, make cross border relations more secure and support the competitiveness of financial markets. This study aims at investigating the impact of the possible learning and adoption of Extensible Business Reporting Language (XBRL) in the Nigerian Stock Exchange. The data used for this study were gathered through the instruments of a questionnaire and secondary sources. One hundred and Fifty (150) copies of a questionnaire were administered, out of which one hundred and thirty-one (131) were collated for analysis. To achieve the objectives of this study, three hypotheses were formulated from the structure of research questions. Kruskal-Wallis and descriptive statistical tools were used in testing these hypotheses. Findings show that environmental factors and problems in the Nigerian Stock Exchange will affect the learning and implementation of XBRL in the Stock Exchange as well as the fact that certain infrastructure must be put in place before the implementation of XBRL. Based on these findings, the study recommends that the Federal government should announce and compel the educational awareness and adoption of XBRL as a format for regulatory filing and financial reporting in the Nigerian Stock Exchange.

Key words: XBRL, Nigerian Stock Exchange, Education, Information, Development
1.0 Introduction

In recent times, the need for updated, accurate and easily understandable financial information in the financial markets has grown. This is facilitated by the upsurge in international trade and unification of markets and increase in the number and users of accounting information. According to Chandran (2010), cited in Faboyede, Mukoro, and Olowe (2011), investors today are very demanding, and emphasize greatly on authenticity, accuracy, and reliability of financial data as financial reporting reveals the true financial and overall health of an organization. However, the differences in presentation, terminologies, interpretation, and accounting standards in financial reports have frustrated users of accounting reports all around the world.

The answer to this problem, it seems, came in the form of the Extensible Business Reporting Language (XBRL) when Charles Hoffman, a Certified Public Accountant (CPA) from the State of Washington, began experimenting with Extensible Mark-up Language (XML) in April 1998 which eventually led to the development of XBRL. The Extensible Business Reporting Language (XBRL) is defined as—a standard-based method with which users can prepare, publish (in a variety of formats), exchange and analyze financial statements and the information they contain (Malhotra and Garriit, 2004). It is to address business reporting information on the internet and bases on XML, which is a standard for electronic data exchange on the internet. It is a markup language, rather than a programming one. It enables business data and information to be shared and communicated by companies, banks, stock exchanges, accounting institutions, governments and other relating organizations (Faboyede, Mukoro, Olowe, 2011). It is open-standard, free of charge, and developed by an international non-profit consortium known as the XBRL International (Li, 2007). It should be noted that Extensible Business Reporting Language (XBRL) is a significant part of the Accounting Information System process.

China, in 2004, and the United States of America (USA), in April 2009, set the pace for the world when their respective Securities and Exchange Commissions mandated that regulatory filing by companies be done in the XBRL format. Incidentally, financial markets the world over are mandating that companies listed on the stock exchange report their financial data for the
period in Extensible Business Reporting Language (XBRL) including Japan, Brazil, South
Africa and many others, with positive results.

In the Nigerian system, little or no strides have been made in the area of XBRL. So far, only the
Association of National Accountants of Nigeria (ANAN), has taken steps by joining the XBRL
International as a direct member and incorporating XBRL into the ANAN training curriculum
for over 10,000 students. The Nigerian Stock Exchange (NSE) has made no move towards the
adoption of the Extensible Business Reporting Language (XBRL) in its regulatory filing system
which would have made positive impact on users of financial reports. This is a major reason for
undertaking this study.

Thus, the main objective of this study is to examine the usefulness and need for the
implementation of the Extensible Business Reporting Language (XBRL) based on the review of
its implementation in selected international stock exchanges which include the American Stock
and the Indian Stock Exchange, and the implications of its adoption for financial report users in
those countries and Nigeria.

Other specific objectives include: examining the environmental factors that will affect the
implementation of the Extensible Business Reporting Language (XBRL) in the Nigerian Stock
Exchange; identifying the infrastructure necessary to ensure the implementation of Extensible
Business Reporting Language (XBRL) in the Nigerian Stock Exchange; and analyzing the
attitude of participants in the Nigerian Stock Exchange and users of financial reports to the
possible implementation of the Extensible Business Reporting Language (XBRL) in the Nigerian
Stock Exchange. The remaining part of this paper discusses the literature review, methodology,
findings, implications, and recommendations.

2.0 LITERATURE REVIEW
Extensible Business Reporting Language (XBRL) is a framework based on XML (Extensible
Markup Language) that is freely licensed and facilitates the automatic exchange and reliable
extensive use of XML will streamline reporting and transaction tracking in every area of business, from regulatory and tax compliance to internal and performance measurements and international harmonization. Reports that took hours to assemble using any analytical application can now be prepared, distributed and consumed in merely seconds using XBRL tags. Joined in a quiet revolution, many companies around the world are beginning to speak a new but common language known as XBRL (Willis, 2003).

Naseem (2011) explains that XBRL allows companies and individuals to tag data inside financial reports to facilitate data extraction and manipulation. Its specifications satisfy the major users of the application which include i) business information preparers, ii) intermediaries in the preparation and distribution process, iii) users of this information and iv) the vendors who supply software and services to one or more of these three types of user. UBMatrix (2006) defines XBRL in 3 categories as follows: (a) XBRL is a global standard method for the electronic exchange of business information (replacing 100s of proprietary methods). (b) XBRL represents a global agreement of the semantics of financial reporting concepts and business rules. ©
XBRL is also an organization, comprised of over 400 members from around the world. The organization stands behind and maintains XBRL.

Summarizing the definitions of XBRL is Eckhausen (2004) who states that: XBRL is a freely available electronic language for financial reporting, based on the XML standards in order to:

i) Prepare financial data
ii) Extract reliable financial data
iii) Exchange financial data on a system to system basis, and
iv) Publish company financial data.

Business organizations are required by regulatory bodies to produce reports periodically for the users of financial statements in different formats as some users require more information than others. With XBRL, all these needs can be met.

3.0 The XBRL Process

Business organizations are required by regulatory bodies to produce reports periodically for the users of financial statements in different formats, since some users require more information than others, but with XBRL, all these needs can be met simultaneously. The diagram below indicates some examples of the need for multiple reports based on the same data. A goal of XBRL is to reduce the manual rework that is usually required to meet the needs/requirements of each of the users. According to Richards and Smith (2004), if all the needs can be met by simply transforming the same data into different formats using XML/XBRL technologies, then many of the repetitive reporting processes can be eliminated.

Shown below is the diagram that shows the different stages which may be involved in a typical XBRL process:
The XBRL Process


4.0 Benefits of XBRL for External Reporting
EDGAR (2007) attests to the benefits of using XBRL for financial external reporting to companies. Such benefits include: quick communication of more accurate data; unprecedented level of transparency for external reporting; reduced costs of automated data gathering and aggregation; efficient data validation; errors are identified/corrected prior to disclosure filings; narrative explanations of valid data discrepancies embedded; faster speed to publishing; expedited reviews from the Securities and Exchange Commission for XBRL filings; leadership and reputation for transparency; improved communications: Companies can ensure that individuals are reviewing their numbers as they were depicted.
4.1 Benefits of XBRL for Internal Accounting
Although the primary push is for using XBRL in interactive data to prepare financial statements, XBRL also works for internal company information, controls, compliance, and reporting processes. The larger the company, the more benefits there are to using XBRL enterprise-wide to automate business processes (EDGAR, 2011). Other benefits include: (a) Analysis of competitors and benchmark against industry peers (b) Improved audits and analysis of Merger and Acquisition targets (c) Faster integration of new acquisitions (d) Communication between autonomous business units using different accounting and ERP systems (e) Automation of aggregation of data from various software applications and databases.

4.2 Requirements of XBRL
The requirements of XBRL as stated by UBMatrix (2006) include: (i) Automated, efficient and reliable extraction of information from an XBRL document (ii) Automated comparison of information expressed in XBRL documents such as financial and other business information. These include accounting policies, notes to the financial statements between companies and the supply chain information (iii) Drill down from information to more detailed information such as, authoritative literature, and audit working papers (iv) Support for multiple languages (v) Extensibility in terms of adding concepts and modifying relationships which is the highest priority of XBRL must be flexible to meet its users' needs (vi) Semantic and syntactic validation of information within XBRL instances, particularly numeric information, and textual-type information (vii) Presentation, such as the use of bold, italics, and other stylistic techniques are a requirement (viii) The data in XBRL documents is commonly numeric and has relationships to other numbers. These relationships need to be accurate.

4.3 Role of XBRL in the Stock Exchange Development
Stock exchanges that collect standard electronic financials and that have automated the analysis and labeling of this data have a fundamental advantage over other Exchanges. They are much more attractive to investors. With XBRL-compliant data, Stock markets can offer increased value and provide competitive advantages to institutions and private investors. Financial data verified in real-time, converted to XBRL and posted directly to an issuer's website improves worldwide exposure and provides rapid analysis capabilities to the investment and analyst.
community (Selim, 2012). There has been a positive increase in XBRL implementation around the world. According to XBRL and the International Accounting Standards Committee Foundation, XBRL in the stock exchange will ensure: (a) Seamless flow of data (b) Filtered data © Validation (d) Creation of enhanced/new revenue opportunities and (e) Saving of time and resources. Also, Selim (2012) noted that the implementation of XBRL in the stock exchange will help market regulators in the following ways:

(i) **Customer Analysis of listed companies’ filings:** In the past, market regulators had to build company data into analysis database and send to investment houses for use. This process usually took months to carry out thus providing these houses with outdated information. XBRL offers investors and market regulators instant access to company financials

(ii) **Data Collection Solutions: XBRL Forms:**

Processes like XBRL forms remove the financial and technological burden from the filers and provide an easy-to-use, web-based front end for users to verify financial information prior to submission. With the taxonomy identified, the XBRL Forms application dynamically renders a set of examine-driven returns for high quality financial data capture.

(iii) **Data Centre Opportunities:** By adopting an integrated platform to collect, verify, analyze and consolidate XBRL data in near real-time, market regulators can collect higher-quality data and use this data to statistically improved time to market. This opens the door for new viable profit possibilities:

a) How much more valuable is same-day data versus data received in 30 days, 90 days or annually? Would a Portfolio Manager pay a premium for near real time analytics and/or data metrics against the most current reported investment data? With an integrated end-to-end data collection and analytics platform in place, market regulators could explore providing data services as a viable profit centre.

b) A return to the standardized Exchange listing fees could be charged to the Issuers for filing XBRL filings. Financial data verified in real-time, converted to XBRL and posted directly to the issuer’s website would improve transparency and worldwide exposure, and provide ready access to the investment and analyst community.
c) A market regulator has implemented an Analytics platform that integrates validated, near real-time XBRL data, they may wish to offer some or all of this data to the community in order to drive new revenue growth for the Exchange. Investors, analysts and journalists would find this data ideal for intra and cross-sectored analysis and data mining, such as prescriptive and regression analysis, neural networks, benchmarking, identifying outliers, or peer rankings within an industry category or across market sectors.

d) For scalable models for investors, analysts and journalists against near real-time Investment data can drive revenue growth for an Exchange.

(iv) IT Validation: Since XBRL forms dynamically renders web submission forms from a market regulator's taxonomy, it can also validate each filing in real time before certifying the required XBRL instance document.

(v) Validation: For market regulators, better risk mitigation involves validating financial returns against their taxonomy prior to submission, dramatically reducing round trip errors related to re-keying data into back-end systems. An integrated XBRL-based automation system enables this type of workflow and introduces cost, labour and time efficiencies for the regulator as well as the filer.

(vi) Business Interoperability: Fundamentally, structured data like XBRL has meaning and context so that it can be exchanged effectively between trading partners, between entities and within as well as exchanged internally. Properly structured data is inherently easier to reuse and automated applications; whereas unstructured data is difficult to share without additional effort.

(vii) Efficiency Risk Management: XBRL Designer: One example of these powerful Taxonomy design tools is XBRL Designer: a metadata-driven GUI design tool that supports taxonomy design (including data definitions, formula creation and returns definitions) for business users complete control over the entire data collection process.
With the Designer, Market Regulators can quickly react to changing legislation, standards and rules without IT or 3rd party intervention, effectively insulating the business from the inherent complexities of XBRL.

(Valuation: Future Taxonomy Up to Date: Taxonomy design has traditionally required skilled XML coders and/or XBRL specialists to prepare taxonomies by specifying detailed concepts, dimensions, calculations, and validation rules. Manually editing these Taxonomies can be very complex and time consuming, and in the past has required significant re-writing of the data collection/validation requirements to highly paid XBRL expert management of the Taxonomy. Over the past few years however, powerful business user-friendly Taxonomy design tools have emerged and now policy change can be implemented faster and more efficiently directly by business users.

4. Factors Affecting XBRL Adoption

The following factors that might affect the implementation of XBRL in the stock exchange.

According to Bierstaker, Fowler and Mustafa (2009), factors that affect XBRL adoption in an organization can be classified into:

i. Environmental context factors: Environmental context factors include industry characteristics, support infrastructure and Government. Industry characteristics involve concerns of the level of competition, influence or pressure from and organization’s trading partner, regulatory and government agenda.

ii. Organizational context factors: According to Janvrin, Bierstaker and Lowe (2008, as cited by Fowler and Mustafa 2009), these factors relate to the organization’s structure, processes and resources within the organization’s readiness to adopt technology. These factors include organizational structure and resources, top management support and organization champion.

iii. Technology context factors: These factors include relative advantage, compatibility, complexity and observability of an information system technology like XBRL. These play a key role in the decision to adopt it.
5.0 Testing of Hypotheses
The hypotheses of this study include:

H1: There is no significant difference in the opinion that environmental factors will affect XBRL implementation across the 3 groups of respondents.

H2: Information infrastructures are not necessary to ensure the implementation of XBRL in the Nigerian stock exchange.

H3: The role of users of financial reports will not be positive to the possible implementation of the e-Business Reporting Language (XBRL).

5.1 Method of Data Analysis
A five-point Likert scale questionnaire was administered to stakeholders in financial reporting in Nigeria, notably, investors, Tax practitioners, auditors, preparers of financial statements and capital market operators. A total number of 150 questionnaires were distributed and 111 of these questionnaires were returned, showing an average return rate of 87.3%. An employed the Kruskal-Wallis Test (sometimes referred to as the Kruskal-Wallis H Test) as a non-parametric alternative to a one-way between-groups analysis of variance, in testing the hypotheses.

5.2 Testing

H1: There is no significant difference in the opinion that environmental factors will affect XBRL implementation across the 3 groups of respondents.

Ranks

11
<table>
<thead>
<tr>
<th>Respondent Group</th>
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<th>Mean Rank</th>
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<tbody>
<tr>
<td>Investor</td>
<td>46</td>
<td>65.21</td>
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<tr>
<td>Tax Practitioner</td>
<td>36</td>
<td>64.25</td>
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<tr>
<td>Auditor</td>
<td>39</td>
<td>53.04</td>
</tr>
<tr>
<td>Total</td>
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Test Statistics

<table>
<thead>
<tr>
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<th>Respondent Industry factors effect on XBRL Implementation</th>
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<tbody>
<tr>
<td>Chi df Asy</td>
<td>3.416 2 .181</td>
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</table>

The statistic Significance of 0.181, which is greater than 0.05, shows that there is no significant difference in the perception of the groups. The three groups agree to equal degree that environmental factor (industry factors) will affect the implementation of XBRL. The Investor has the mean rank of 65.21 followed by the Tax Practitioners with 64.25 and the Auditor with 53.04.

Decision: Level of Significance: α = 0.05. Since p value = 0.181 ≥ 0.05= α, accept the null hypothesis which states there is no significant difference in the opinion that environmental factors will affect XBRL implementation across the 3 groups of respondents and reject the alternative hypothesis.
Hypothesis:
Certain infrastructures are not necessary to ensure the implementation of XBRL in the Nigerian Stock Exchange.

<table>
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<th>Ranks</th>
<th>Respondent Group</th>
<th>N</th>
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<td>Respondent Company formal on electronic matters</td>
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<td>Total</td>
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Test Statistic

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<th>CHI Square</th>
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<tbody>
<tr>
<td>10.633</td>
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<td>0.005</td>
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</table>

Conclusion:
Since the p value = 0.005 ≤ 0.05 = α, reject the null hypothesis which states that certain infrastructures are necessary for the implementation of XBRL in the Nigerian Stock Exchange.
Hypothesis:
The attitude of users of financial reports will not be positive to the possible implementation of the Extensible Business Reporting Language (XBRL).

Ranks

<table>
<thead>
<tr>
<th>Respondent Group</th>
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Test Results

<table>
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<th>Respondent XBRL contribution to speeding up reporting and filing cycle</th>
<th>Chi-Square</th>
<th>df</th>
<th>Asymptotic Significance</th>
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<tbody>
<tr>
<td></td>
<td>6.52</td>
<td>2</td>
<td>0.038</td>
</tr>
</tbody>
</table>

Results of significance; α=0.05. Since p value = 0.038 ≤ 0.05 = α, reject the null hypothesis for the alternative hypothesis which states that the attitude of users of financial reports will be positive to the possible implementation of the Extensible Business Reporting Language (XBRL).
Sequel to the closed ended questionnaire administered, we found out that Extensible Business Reporting Language has a very important role to play in the Nigerian Stock Exchange and has positive implications for users of financial reports at large. Other findings include:

1. The study found out that environmental factors are capable of affecting the implementation of Extensible Business Reporting Language in the Nigerian Stock Exchange.

2. The research also found out that certain infrastructure such as Company formal policies on electronic records must be put in place before the implementation of Extensible Business Reporting Language.

3. Certain factors such as operational, organizational and Nigerian Stock Exchange problems will affect the implementation of XBRL in the Nigerian Stock Exchange.

4. The major stakeholders/users of financial reports (investors, tax practitioners and auditors) have a positive attitude towards the possible implementation of XBRL in the Nigerian Stock Exchange.

5. Based on the opinion of the experts, Extensible Business Reporting Language will improve Accounting Information System and the decision making process.

5.5 Findings
After the analysis of the questionnaires recovered from respondents, the following observations were made:

The Nigerian Capital Market has a low awareness of Extensible Business Reporting Language. Industry factors will affect the implementation of Extensible Business Reporting Language in the Nigerian Stock Exchange.
The existence of support infrastructures will affect the implementation of Extensible Business Reporting Language in the Nigerian Stock Exchange.

The Nigerian economic environment is suitable for XBRL implementation.

Stakeholders believe that XBRL can contribute to speeding up the reporting and filing cycle, facilitate comparability, reduce processing errors and be a reliable resource for the preparation of returns.

Stakeholders believe that XBRL will improve the transparency, comparability, relevance and reliability of financial statements.

5. Conclusion

The global adoption of the programming language Extensible Business Reporting Language (XBRL), will improve business data and information sharing among companies, banks, stock exchanges, accounting institutions, governments and other related concerns. Transparency, comparability and reliability of financial statements promise to also improve.

The Extensible Business Reporting Language (XBRL) is needed and should be adopted by the Nigerian Stock Exchange as the standard for financial reporting and regulatory filing. Only then can it regain the investors’ confidence and make strides towards the global stock exchange it aspires to be.

5.5 Recommendations

Awareness campaigns of the existence of Extensible Business Reporting Language (XBRL) must be carried out to encourage smooth and easy transition to XBRL-based financial reporting. Awareness for managers and other institutional investors should be made aware of XBRL through their professional bodies.