

Assurance on XBRL Instance Document: A Conceptual Framework of Assertions

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ABSTRACT

XBRL stands for extensible business reporting language. It is an XML based computer language for reporting business information. Starting December 2008, the United States Security and Exchange Commission (US SEC) has a proposal requiring top 500 public companies to file their financial statements with the SEC not only in the text format (i.e., in ASCII or HTML) but also in the XBRL format. The file created using XRBL language is called an XBRL instance document. Under this requirement, the filers are not required to obtain a third party assurance on the XBRL instance document. The main reason for not requiring a third party independent assurance of XBRL instance documents is to encourage filers to comply with the SEC requirement without incurring much added costs. In addition, to encourage the filers to comply with this requirement, the SEC is not holding filers legally liable of any errors in the filed XBRL instance documents so long as they look similar to the standard reports when viewed using the SEC viewer.

Even though the SEC is not currently requiring a third party assurance of the XBRL instance documents of the SEC filings, it is in the best interest of the public that these documents be assured. Although there have been efforts by both the practitioners and academics to investigate issues involved in providing assurance on XBRL documents, these efforts have been focused on the specifics of the assurance process and the difficulties involved in it; but no efforts have been devoted to developing a framework of assertions similar to the management assertions in the financial audit. Without a conceptual framework, the assurance process for XBRL instance document would be incoherent and inconsistent. This paper develops a set of assertions for providing assurance on XBRL instance documents similar to the management assertions for financial audits. Further, we discuss how such a framework would assist auditors in planning and evaluating such an engagement by collecting appropriate items of evidence pertaining to specific assertions to form an opinion whether the instance document is a true representation of the text document. We also discuss how the use of a technology would make the assurance process more effective and efficient.

Key words: Assurance, Assertions, XBRL, Instance Document, Framework

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1. INTRODUCTION

The main purpose of this paper is to develop a conceptual framework of assertions for providing assurance on XBRL instance documents. Similar to financial audits, we develop a comprehensive set of assertions that are essential for providing quality assurance on XBRL instance documents. In addition to developing the basic assertions for a quality assurance, we demonstrate, through examples, the assertion based approach to be the most effective and efficient way to provide assurance services on XBRL instance documents.

Recently, the SEC (2008) published *Proposal: Interactive Data to Improve Reporting* in which it defines the assurance on XBRL tagged document to mean that “The tagged financial statements are accurate and consistent with the information the company presents in its traditional format filings”. However, the document does not define the meanings of “accurate” and “consistent”. Public Company Accounting Oversight Board (PCAOB 2005) through its *Staff Questions and Answers* provides general guidance as to the nature of assurance without giving any specifics of the attributes or assertions to be tested and validated for the assurance services on XBRL instance documents. Similar to PCAOB, Assurance Working Group (AWG) of XBRL International (2006, see, e.g., Boritz and No 2008) provides similar guidance but does not provide any framework of assertions for the assurance process.

AICPA Assurance Services Executive Committee (2008) has recently published a White Paper titled: “The Shifting Paradigm in Business Reporting and Assurance”. This White Paper “examines the current state of business reporting, identifies the key forces of change that are

challenging the limitations of this current state, and sets forth a current and future migration path toward a model that better addresses the needs, challenges, and opportunities of the 21st century.” However, this paper too does not provide any framework of assertions to achieve the assurance objective on the XBRL instance document.

Although, PricewaterhouseCoopers (Boritz and No 2008) had performed an assurance service on the United Technologies Corporation’s (UTC) instance document without a formal set of assertions, in an attempt to indentify issues and difficulties involved in the assurance process, Boritz and No (2008) performed a mock audit of the 10Q XBRL instance document of UTC. Their approach consisted primarily of tracing every item in the paper version to the XBRL instance document and every item from the XBRL document to the paper version. It took them about 63 hours to complete the task. At the end of the process, their conclusion was that they had high assurance that “the 10-Q XBRL-Related Documents were a *complete* and *accurate* reflection of UTC’s 10-Q.” Although, based on the detailed work done by Boritz and No (2008), one can say that their audit approach was of high quality, however, there is no reference point or framework to judge whether they did everything that was needed to be done to make sure that the instance document truly represented the paper document. The question again is what constitutes “true representation”.

Just recently, Plumlee and Plumlee (2008) discuss the issues involved in providing assurance on XBRL instance documents. They talk about materiality issues, statistical sampling issues, and control related issues. However, they do not talk about or discuss a conceptual framework of assertions for the assurance process as one would need to conduct the service.

The general requirements under SEC Proposal (Rule 405 Regulation S-T, SEC 2008) for preparing the financial statements under XBRL tagged format are:

- Information in interactive data format should not be more or less than the information in the ASCII or HTML part of the report
- Use of the most recent and appropriate list of tags released by XBRL U.S. or the IASCF as required by EDGAR Filer Manual.
- Viewable interactive data as displayed through software available on the Commission's Web site, and to the extent identical in all material respect to the corresponding portion of the traditional format filing

The SEC (2008) expectation is that the validation software would

- Check if required conventions (such as the use of angle brackets to separate data) are applied properly for standard and, in particular, non-standard special labels and tags. For example, if a company uses the word "liabilities" as the caption for a value data tagged as "assets," the software would flag the filing and bring it to the staff's attention. In contrast, if the company used "Total Assets" or "Assets, Total," the software would identify the use of these terms as a low risk discrepancy.
- Identify, count, and provide the staff with easy access to non-standard special labels and tags
- Identify the use of practices, including some the XBRL U.S. Preparers Guide contains, that enhance usability
- Facilitate comparison of interactive data with disclosure in the corresponding traditional format filing
- Check for mathematical errors; and analyze the way that companies explain how particular financial facts relate to one another. The technology used to show these relationships is known as a "linkbase." The Commission will seek to ensure that linkbases not only comply with technical requirements but are not used to evade accounting standards.

A closer look at the SEC Proposal and its position on the accuracy and completeness of XBRL tagged documents, and also at the other efforts on either providing assurance (PWC, and Boritz and No 2008) on XBRL instance documents or the guidance provided by AICPA (2008) and PCAOB (2005), we come to a conclusion that there seems to be a general lack of conceptual framework of assertions that would make the assurance process effective and efficient. These current approaches seem to be similar to what the audit process used to be some 60 years ago before the publication of "Philosophy of Auditing" by Mautz and Sharaf (1963); a bunch of

procedures to be performed specific to each balance sheet account. In the present paper, we logically argue for a set of assertions that determine the quality of the XBRL document. These assertions then lead to appropriate audit evidence for providing the assurance on these documents.

While the SEC (2008) has proposed to mandate top 500 companies to file their financial statements in XBRL tagged format for fiscal period ending December 2008, it does not require preparation of and assurance on such documents by an independent third party. The SEC contention is that the filers of the XBRL tagged document would like to make sure that the tagged financial statements are accurate and consistent with the information the company presents in its traditional format filings as evidenced by the following excerpt (SEC 2008).

“We are not proposing that filers be required to involve third parties such as auditors or consultants in the creation of the interactive data provided as an exhibit to a filer’s periodic reports or registration statements, including assurance. We are taking this approach after considering various factors, including: the availability of a comprehensive list of tags for U.S. financial statement reporting from which appropriate tags can be selected, thus reducing a filer’s need to develop new elements; the availability of user-friendly software with which to create the interactive data file; the multi-year phase-in for each filer, the first year of which entails the relatively straightforward process of tagging face financial statements, as was done during the voluntary program, and block tagging footnotes and financial statement schedules; the availability of interactive data technology specifications, and of other XBRL U.S., and XBRL International resources for preparers of tagged data; the advances in rendering/presentation software and validation tools for use by preparers of tagged data that can identify the existence of certain tagging errors; the expectation that preparers of tagged data will take the initiative to develop sufficient internal review procedures to promote accurate and consistent tagging; and the filer’s and preparer’s liability for the accuracy of the traditional format version of the financial statements that will also be provided using the interactive data format.”

In addition, the SEC (2008, p. 19) asserts that data in the interactive data file submitted to SEC would be

“protected from liability for failure to comply with the proposed tagging and related requirements if the interactive data file either

- Met the requirements; or
- Failed to meet those requirements, but failure occurred despite the issuer’s good faith and reasonable effort, and the issuer corrected the failure as soon as reasonably practical after becoming aware of it.”

While waving the assurance requirements and providing liability protection for XBRL filings is a very significant relief to the SEC filers, and will moderate their resistance to this new filing requirement, this is a short-time band-aid that has to be eliminated sooner rather than later, as more and more financial statement users will start tying their systems to the “interactive data” in XBRL provided online by the SEC. Since “interactive data” is designed to be automatically utilized by computers without human intervention and for various purposes, it will completely replace the standard format data in most applications, and thus, has to be assured to be relied on. The development of a conceptual framework for this assurance is the topic of this paper. We limit our attention to the current mode of providing an XBRL version of financial statements in addition to the traditional format. Therefore, we assume that the traditional format statements have been audited in accordance with the current requirements, and can be relied on as a benchmark for comparison. When the traditional format financial statements are phased out, and the XBRL version becomes the main (and only) format of the SEC filings, this framework will have to be revisited to be merged into the statutory audit methodology.

We assume that the reader is familiar with the fundamental concepts of XBRL (including taxonomy extensions) to the extent that they are described in XBRLUS (2008b). The paper is divided into five sections. Section 2 develops the main assertions for XBRL assurance services. Section 3 describes other related issues pertinent to XBRL instance documents. Section 4 describes relevant technology that would be important for providing assurance on XBRL instance documents. Finally Section 5 provides a summary and conclusion of the study.

2. ASSERTIONS FOR XBRL ASSURANCE

In this section we propose a set of assertions that would serve as the criteria to provide assurance on the XBRL instance document. Violation of these assertions will constitute errors in the XBRL instance documents. These assertions are conceptualized based on the set of assertions proposed by AICPA (2006) and the set of assertions for information quality proposed by Bovee, Srivastava and Mack (2003). To derive the appropriate assertions, we follow the methodology of information assurance (Lamm and Haimes, 2002) as well as the general audit standards guidance (in particular, SAS 107 / AU 312 “Audit Risk and Materiality in Conducting an Audit”), and start by analyzing the risk scenarios on the basis of enumerating adverse events that can result in material deficiencies of the XBRL formatted statements.

As stated earlier, the main assertion is “The XBRL instance document is a true representation of the electronic document (ASCII or HTML) filed with the SEC”. One can find more specific guidance in the Q&A provided by the PCAOB Staff (PCAOB, 2005) and in the white paper by the Assurance Working Group (AWG) of XBRL International (2006).

The structure of XBRL instance documents makes it natural to decompose the risk of deficiencies analysis into the data deficiency and meta-data deficiency parts. The former refers to the possible deficiencies of the facts that are marked up in the XBRL instance document, while the latter refers to the possible deficiencies of the mark-up itself, including both the deficiencies of the mark-up in the instance document and deficiencies of the XBRL taxonomies. While this decomposition is useful for structuring the assertions that assurance attests to, the two parts are closely interlinked and will often be tested together. The risks of deficiencies identified below incorporate and systematize all the problems covered by management review objectives described in XBRLUS (2008b, section 8).

Possible data deficiencies in the XBRL instance document include:

- Omissions of relevant data from the traditional format documents. For example, if the audited financial statement provides the amount of accounts receivable for the current quarter but the XBRL instance document omits this datum, this will constitute a material deficiency making the XBRL instance document inconsistent with the traditional format filing. The audit assertion aimed at this risk will be called *Completeness*.
- Insertions of data not present in the traditional format documents. For example, if the XBRL instance document contains an element describing the amount of accounts receivable for the current quarter, while the audited financial statement does not provide it, this will constitute a material deficiency making the XBRL instance document inconsistent with the traditional format filing. The audit assertion aimed at this risk will be called *Existence*.
- Erroneous element values and / or attribute values (such as context, unit, etc.). An example of an erroneous element value would be the XBRL instance document describing the amount of accounts receivable for the current quarter as \$90,000.00 while the audited financial statement showing this amount to be \$100,000.00. An example of an erroneous attribute value would be a wrong contextRef value that misidentifies \$90,000.00 as the amount of accounts receivable for the current quarter, while the traditional format document states that it is actually for the previous quarter. The audit assertion aimed at this risk will be called *Accuracy*. This assertion would have two components; one would deal with the accuracy of the value of the element (*Element Accuracy*) and the other would deal with the accuracy of the attributes' values (*Attribute Accuracy*).

Possible deficiencies of the mark-up in the XBRL instance document include:

- Erroneous tagging of data that violates XML syntax rules. For example, a missing closing tag such as </AccounsReceivable> would make the XBRL instance document severely deficient and likely make it unusable for computer applications. The audit assertion aimed at this risk will be called *Well-formedness*.
- Erroneous tagging of data that violates XML Schema. This includes non-compliance with either the standard XBRL taxonomies or taxonomy extensions used by the filer. An example of such deficiency would be an element with a missing required attribute such as unitRef. Such document would cause processing problems for XBRL software because of lack of crucial substantive information. The audit assertion aimed at this risk will be called *Validity*.
- Inappropriate choice of XBRL elements to tag traditional format document data. For example, if the audited financial statement provides the amount of accounts receivable for the current quarter but the XBRL instance document tags this

datum using the element <CurrentAssets>, this will constitute a material deficiency making the XBRL instance document inconsistent with the traditional format filing. The audit assertion aimed at this risk will be called ***Proper Representation***.

Possible deficiencies of XBRL taxonomies used by the filer include:

- Improper choice of general and industry-specific XBRL taxonomies by the filer. An example of such deficiency will happen if an insurance company does not utilize the approved US GAAP - Insurance XBRL taxonomy and relies instead only on the US GAAP - Commercial and Industrial XBRL taxonomy instead. The audit assertion aimed at this risk will be called ***Proper Taxonomies***.
- Violations of XML or XBRL language rules in XBRL taxonomy extensions by the filer. An example of such deficiency will happen if a taxonomy extension includes a definition of new element which does not have the required `xbrli:periodType` attribute. The audit assertion aimed at this risk will be called ***Valid Taxonomy Extensions***.
- Inappropriate introduction of new elements in XBRL taxonomy extensions. The deficiencies can range from introducing unnecessary new elements to replace ones in standard taxonomies to improper attribute values. For example, an insurance company may decide to introduce an extension element called <InsuranceReceivable> which is functionally equivalent to the standard element <PremiumsReceivable> in the US GAAP - Insurance XBRL taxonomy. Another example of such deficiency would be an airline company introducing a new element <FlightEquipment> with the *balance* attribute value set to “credit”. The audit assertion aimed at this risk will be called ***Proper Extension Elements***.
- Inappropriate / erroneous linkbases in XBRL taxonomy extensions (including the choice of inappropriate/misleading labels). An example of such deficiency (in the Calculation Linkbase) would be an airline company that introduced a new element <FlightEquipment> and created an erroneous <calculationArc> going from <CurrentAssets> to <FlightEquipment> (instead of the correct one going from <PropertyPlantAndEquipment> to <FlightEquipment>). The audit assertion aimed at this risk will be called ***Proper Linkbases***.

The content of an audit assertion is the claim that a specified set of deficiencies affecting the audit subject matter is not present. Therefore, XBRL assurance process should be driven by assertions stating that the possible deficiencies identified above are not present in the XBRL report under examination. If the above list of deficiencies is sufficiently comprehensive, then

satisfying the set of assertions based on them will thus assure that the audited instance document faithfully represents the filed document.

Based on the risks of deficiencies identified above, we present below a set of assertions that we propose for assuring that the XBRL instance document “is a true representation of the electronic document (ASCII or HTML) filed with the SEC”. Figure 1 provides a schematic representation of the proposed assertions and sub-assertions. The main assertion is true if the following assertions are true:

Assertions about business facts in XBRL instance document

Completeness: the XBRL instance document has no omissions of relevant facts / data from the traditional format document.

Existence: the XBRL instance document has no insertions of facts / data not present in the traditional format document.

Accuracy: All element values and / or attribute values (such as context, unit, etc.) accurately represent the facts in the traditional format document. Thus, this assertion has two sub-assertions: ***Element Accuracy***, and ***Attribute Accuracy***.

Assertions about meta-data in XBRL instance document

Well-formedness: The XBRL instance document is well-formed, i.e., it complies will all XML syntax rules.

Validity: The XBRL instance document is valid, i.e., it complies will all rules of XBRL and referenced XBRL taxonomies.

Proper Representation: The XBRL tagging in the instance document properly represents the facts in the traditional format document

Assertions about meta-data external to XBRL instance document

Proper Taxonomies: The XBRL instance document references appropriate general and industry-specific XBRL taxonomies.

Valid Taxonomy Extensions: the XBRL taxonomy extensions referenced by the XBRL instance document are valid, i.e., they comply with all rules of XML and XBRL.

Proper Extension Elements: the new elements in the XBRL taxonomy extensions referenced by the XBRL instance document are introduced appropriately.

Proper Linkbases: the linkbases in the XBRL taxonomy extensions referenced by the XBRL instance document are appropriate.

The “proper linkbases” assertion includes the respective sub-assertions for each type of linkbases in the XBRL taxonomies. In particular, the verification of the “proper label linkbases” assertion will require ascertaining that the labels assigned to new elements or re-assigned to the standard elements in the extension taxonomies are chosen appropriately. The verification of the “proper presentation linkbases” assertion will require ascertaining that the hierarchical structure described by the introduced arcs is appropriate for the filer. Similarly, the verification of the “proper calculation linkbases” assertion will require ascertaining that the aggregation rules described by the arcs are appropriate for the elements. The verification of the “proper definition linkbases” assertion will require ascertaining that the introduced dimension relationships are appropriate. Finally, the verification of the “proper reference linkbases” assertion will require ascertaining that the arcs refer to appropriate external regulations or standards.

While some of the assertions above (“well-formedness”, “validity” and “valid taxonomy extensions”) can be easily verified automatically using XBRL processing software, some other assertions (“completeness”, “existence”, “accuracy”, and “proper taxonomies”) require human analysis of intermediate level of expertise, and the rest of the assertions (“proper representation”, “proper extension elements”, and “proper linkbases”) require high-level human judgment of high level of expertise.

The auditing (as well as preparation) of XBRL instance documents will be greatly simplified and standardized if XBRL US succeeds in their quest to create and maintain an XBRL taxonomies validation system acting as “an interoperable component that will serve as a common core to enable the editing, distribution and processing of validation criteria or consistency checks” as described in XBRLUS (2008a). Another extremely important tool facilitating audit procedures to support the assertions described above would be XBRL processing software which is enabled to maintain and visualize a manually established mapping between the facts in the traditional format document and elements in the XBRL instance document.

3. OTHER ISSUES IN ASSURING XBRL INSTANCE DOCUMENTS

In this section we discuss issues that relate to XBRL instance documents of the financial statements filed with the SEC. Plumlee and Plumlee (2008) have raised these issues. We further elaborate on these issues.

3.1. Materiality

Usually, the materiality concept used in the audited financial statements filed with the SEC is at the overall level. However, when the same information is presented in the XBRL format where users of the information can pick any line item from the tagged financial statement for decision purposes, they may erroneously assume that each line item is accurate in itself which

is not the case. Thus, their use of the individual piece of information in their decision would not accurately represent the reality. This is a major problem with the financial statements filed with the SEC under XBRL format. What will be appropriate for the decision makers when they use each line item to make their decision is the assurance at each data level, as pointed out by AWG (2006, paragraph 028). Thus, we have two kinds of materiality:

- Materiality for the entire FS
- Materiality for each line item in the instance document

3.2. Inherent Risk, Control Risk, Detection Risk, and Statistical Techniques

The American Institute of Certified Public Accountants (AICPA) uses the audit risk model (AICPA 2006b, 2006c) for the traditional financial statement audit. Plumlee and Plumlee (2008, p. 363) raise questions about the components of the audit risk model (inherent risk, IR; control risk, CR; analytical procedures risk, APR; and detection risk, TD) as to how would they apply to the audit of the XBRL instance document? They do not provide any solution. Here we elaborate on these issues and raise further questions, especially relevance of control risk and statistical sampling.

Since major portion of the XBRL instance document is being prepared by software with human interventions possibly to add extensions and create linkbases, the reliability of such software would be of utmost importance for the reliability of the XBRL instance documents. In fact, creation of extensions and the corresponding linkbases could be automated too (e.g., the latest version of FRAANK has these built-in features, Bovee et al 2005). The risk that the software would have introduced errors would be equivalent to RMM (the risk of material misstatement represented as the product of inherent risk and control risk: $RMM = IR \cdot CR$, see AICPA 2006b, 2006c). The traditional definition of inherent risk (IR) and control risk (CR)

would not make sense because the nature of errors are very different as discussed in the previous section. However, it is important to assess the reliability of the software in order to determine the extent of audit; the more reliable the software the more reliable the XBRL instance document and thus the less the amount of work to be done by the auditor. The question then arises, how do we assess the reliability of the software? Should it be done through a test sample of SEC filing with seeded errors to create an XBRL instance document from this test sample filing and assess the reliability of the software?

In the traditional audit of financial statements, if the auditor assesses a low level of risk of material misstatement (RMM) then he/she would perform less extensive substantive tests such as a smaller sample for a statistical test. Plumlee and Plumlee (2008) argue that before auditors start using statistical techniques to audit XBRL instance documents meanings of tolerable error and tolerable deviation need to be clarified. However, we question the use of statistical techniques in the audit of XBRL instance documents. For statistical techniques to work we need a large population of items that have identical characteristics such as inventory balance consisting of a large number of individual inventory items or accounts receivable balance consisting of a large number of customer accounts receivable balances. For instance, one can use the Mean-Per-Unit statistical technique to determine the inventory value of the population by determining the sample mean (Guy and Carmichael 1986).

However, it would not make sense to use statistical techniques to check whether business facts on the traditional format documents are properly tagged because of the following reasons. First, each business fact to be tagged on the traditional document is a unique item having very different characteristics from another business fact. Second, even if there are few business facts that may have the same characteristics, they are so small in number that statistical inference

techniques will not be applicable. For example, the tag for accounts receivable, “AccountsReceivable” has “debit” as an attribute and “TotalCurrentAssests” as the parent tag while the tag for accounts payable, “AccountsPayable” has “credit” as an attribute and “TotalCurrentLiability” as the parent tag. Even if one considers all the children of one parent, the number may still be less than ten. Thus, the use of statistical techniques with a population size of ten would not make sense.

4. XBRL INSTANCE DOCUMENT ASSURANCE PROCESS

As discussed in the previous section, since the statistical techniques do not appear to be appropriate for testing whether the XBRL instance document is “the true representation of the SEC filing”, we discuss here the assertion based approach to assurance using an intelligent system such as FRAANK (Bovee et al 2005) along with a human expert. To ascertain that the main assertion “XBRL instance document is a true representation of the electronic document (ASCII or HTML) filed with the SEC (see Figure 1)” is true, the assurance provider collects evidence to determine whether all the relevant assertions listed in the previous section were true. Thus, in principle, the assurance process is similar to the traditional audit of collecting, evaluating and aggregating evidence to ascertain that each assertion is true at a high level of confidence. We list procedures in Tables 1-3 that can be performed by an expert auditor along with the use of intelligent software to conduct the assurance service on the XBRL instance document.

5. CONCLUSION

Starting December 2008, the United States Security and Exchange Commission (US SEC) is requiring top 500 public companies to file their financial statements with the SEC not only in the text format (i.e., in ASCII or HTML) but also in the XBRL format. Under this

requirement, the filers are not required to obtain a third party assurance on the XBRL instance document. The main reason for not requiring a third party independent assurance of XBRL instance documents is to encourage filers to comply with the SEC requirement without incurring much added costs. In addition, to encourage the filers to comply with this requirement, the SEC is not holding filers legally liable of any errors in the filed XBRL instance documents so long as they look similar to the standard reports when viewed using the SEC viewer. Even though the SEC is not currently requiring a third party assurance of the XBRL instance documents of the SEC filings, it is in the best interest of the public that these documents be assured.

This paper had developed a set of assertions for providing assurance on XBRL instance documents similar to the management assertions for financial audits. Further, we have discussed how such a framework would assist auditors in planning and evaluating an assurance engagement for XBRL instance document by collecting appropriate items of evidence pertaining to specific assertions to form an opinion whether the instance document is a true representation of the text document.

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Table 1: Evidence Pertaining to Assertions About Business Facts in XBRL Instance Document

Specific Assertions		Procedures as items of evidence pertaining to the assertion
Completeness		<p>Manual (M): Trace from the text document to the instance document and note that all business facts are tagged.</p> <p>Intelligent Software (IS): Intelligent software can be programmed to tag all the business facts. Compare programmatically each tagged fact prepared for the SEC filing with the tagged facts by the intelligent system.</p>
Existence		<p>M & IS: Intelligent software creates a text document from the XBRL tagged document and a knowledgeable person traces from this created document to the original document to check if the tagged facts are present in the original document.</p>
Accuracy	Element Accuracy	<p>M: Trace from the text document to the instance document to check if the values of all the business facts are the same as the values on the rendered document.</p> <p>IS: Intelligent software can be programmed to read the values of the business facts from the original document and compare them with the corresponding values in the instance document.</p>
	Attribute Accuracy	<p>M: Trace from the text document to the instance document to check if the values of all the attributes are the same as the values of these attributes in the instance document.</p> <p>IS: Intelligent software can be programmed to read the values of the business items from the original document and compare them with the corresponding values in the instance document.</p>

Table 2: Evidence Pertaining to Assertions about Meta-Data in XBRL Instance Document

Specific Assertions	Procedures as items of evidence pertaining to the assertion
Well-Formedness	<p>Manual (M): Evaluate the error messages generated by the software to verify well-formedness.</p> <p>Intelligent Software (IS): Utilize any approved XML parsing software to verify that the instance document is well-formed.</p>
Validity	<p>M: Evaluate the error messages generated by the software to verify validity.</p> <p>IS: Utilize any approved XML validating parsing software to verify that the instance document is valid.</p>
Proper Representation	<p>M: Trace from the instance document to the text document to check if the tags, as they are defined in the XBRL taxonomies, properly represent the facts of the traditional format document.</p> <p>IS: Intelligent software can be programmed to maintain a mapping between the facts of the traditional format document and the elements of the instance document to aid in manual decision making.</p>

Table 3: Evidence Pertaining to Assertions about Meta-Data External to XBRL Instance Document

Specific Assertions	Procedures as items of evidence pertaining to the assertion
Proper Taxonomies	<p>Manual (M): Compare the discoverable taxonomy set in the instance document with the available approved and acknowledged XBRL taxonomies to check if all the appropriate taxonomies are used and all the used taxonomies are appropriate.</p> <p>Intelligent Software (IS): Utilize XBRL processing software to identify and visualize the discoverable taxonomy set in the instance document.</p>
Valid Taxonomy Extensions	<p>M: Evaluate the error messages generated by the software to verify validity.</p> <p>IS: Utilize approved XBRL processing software to verify that the taxonomy extensions are valid.</p>
Proper Extension Elements	<p>M: Analyze new elements in XBRL taxonomy extensions to verify that they are defined properly and they not duplicate unnecessarily existing elements.</p> <p>IS: Utilize XBRL processing software to examine new elements in XBRL taxonomy extensions.</p>
Proper Linkbases	<p>M: Analyze new and changed arcs in the linkbases of XBRL taxonomy extensions to verify that they are defined properly.</p> <p>IS: Utilize XBRL processing software to examine new and changed arcs in the linkbases of XBRL taxonomy extensions.</p>

Figure 1: A Conceptual Framework of Assertions for XBRL Instance Document

