Dear Sir or Madam:

As a professional accountant, I am pleased that the FASB has provided an opportunity to comment on the effectiveness and efficiency of the U.S. GAAP Financial Reporting Taxonomy and am providing these comments in the spirit of creating the most useable taxonomy for all stakeholders.

To help you better understand the perspective of my comments, I would like to tell you a little bit about my background. For the past 45 years as a certified public accountant I have effectively utilized technology in my work. For the past 18 years, I have been intimately involved with the creation of the XBRL technical specifications. For the past 6 years, I have been analyzing XBRL-based public company financial filings to understand how to best convey information using the XBRL format. My experience with XBRL taxonomies related to financial reporting is extensive. I was co-editor of the first ever XBRL-based US GAAP taxonomy in 2001. I was part of the team which created the IFRS taxonomy (2003 to 2005). I was a member of the US GAAP XBRL Taxonomy Architecture committee (2007) and part of the quality assurance and testing team for US GAAP Taxonomy (2007 to 2008). Finally, I also participated in the creation of other XBRL taxonomies including FINREP, COREP, the FDIC Call Report taxonomy, Belgium Banking Taxonomy to name a few.
My comments will focus on “Review Area 1 – GAAP Taxonomy Usability”. I will first make several specific over-arching comments related to the taxonomy and then I will respond to specific questions asked by the FASB Invitation to Comment.

All things considered, the US GAAP Financial Reporting Taxonomy is a very good taxonomy. However, just like with anything else, there is always room for improvement. The perspective that I take when thinking about how well the taxonomy is functioning is consistent with SFAS 8 issued by the FASB, page 19, QC23, QC24, and QC25:

**QC 23**: "Comparability is not uniformity. For information to be comparable, like things must look alike and different things must look different. Comparability of financial information is not enhanced by making unlike things look alike any more than it is enhanced by making like things look different."

**QC 24**: “Some degree of comparability is likely to be attained by satisfying the fundamental qualitative characteristics. A faithful representation of a relevant economic phenomenon should naturally possess some degree of comparability with a faithful representation of a similar relevant economic phenomenon by another reporting entity.”

**QC 25**: “Although a single economic phenomenon can be faithfully represented in multiple ways, permitting alternative accounting methods for the same economic phenomenon diminishes comparability.”

Financial reporting is a balancing act. The needs of economic entities to tell the story of their financial position and financial condition must be balanced with the needs of analysts, investors, regulators, and others who make use of reported information. The better the harmony between the stakeholders, the better the system is deemed to work. The system will likely never meet 100% of all needs of all stakeholders. Balancing the system appropriately, for public companies that report to the SEC, is the role of the FASB and SEC. This is an art.

But creating a system for conveying this information using the XBRL format is science and engineering. XBRL-based financial reports are testable to see if information conveyed is consistent with HTML-based representations. Measurements can be taken to understand if tests are passed or if tests fail.

The US GAAP Financial Reporting Taxonomy is part of that system. It plays a role in that system. There are specific identifiable things that contribute to playing that role well; likewise there are specific identifiable things that contribute to playing that role poorly. Because XBRL-based reports are machine-readable, those reports are also machine-testable.
Comment #1: The US GAAP Financial Reporting Taxonomy team should consider providing a specific framework of terms with precise definitions in order to enable precise communications between stakeholders about the taxonomy and about XBRL-based financial reports created using the taxonomy.

Currently, there is no framework that exists to talk about an XBRL-based structured financial report. You might ask certain people if the necessary terms exist and they may indicate that the terms do exist; but then if you drill down and ask different stakeholders or parties to tell you those terms and definitions you would find inconsistencies in those definitions and conflicting views and therefore communication is not really taking place.

Currently, there is a mixture of technical syntax related terms intermixed with domain semantics terms with imprecise definitions. The following provide a number of examples of this lack of precision in terms and definitions from Appendix A: Glossary of the Invitation to Comment:

- Page 34, definition of “Element”, phrase “and rows and columns in tables” at the end of the definition. “Rows and columns” is presentation related and does not belong in the definition of an element. This definition is not useful in conveying meaning or in determining if meaning has been conveyed appropriately.
- Page 34, definition of “dimension”. First, the term “dimension” is technical syntax related definition. Second, the XBRL Dimensions specification defines the semantics of what a dimension does as, “Each of the different aspects by which a fact MAY be characterised”.
- Page 35, definition of “Line Item”. The definition, “Elements that conventionally appear on the vertical axis (rows) of a table. This is a presentation oriented definition, not a definition that is useful in conveying meaning or determining if meaning has been conveyed appropriately.

The table below contains four columns. The first column is the term. The next three columns show the definitions of the term which I personally believe to be the best definition, the XBRL International definition from the Open Information Model, and the FASB definition per the glossary of the Invitation to Comment. I am not stating that my definition is preferable, I am

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only providing my definition to help provide contrast as to different approaches to creating precise definitions of terms.

<table>
<thead>
<tr>
<th>Term</th>
<th>My definition</th>
<th>XBRL definition[2]</th>
<th>FASB definition[3]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Report</td>
<td>Report which communicates financial and nonfinancial information about an economic or accounting entity to users of that report. Financial reports contain facts, characteristics which describe those facts, parenthetical explanations of facts, relations between facts.</td>
<td>Not defined.</td>
<td>The file that contains the data that is to be reported in an XBRL filing program.</td>
</tr>
<tr>
<td>Fact</td>
<td>A fact defines a single, observable, reportable piece of information contained within a financial report, or fact value, contextualized for unambiguous interpretation or analysis by one or more distinguishing characteristics.</td>
<td>A fact is a discrete piece of information in an XBRL Report.</td>
<td>The occurrence in an instance document of a value or other information tagged by a taxonomy element.</td>
</tr>
<tr>
<td>Characteristic</td>
<td>A characteristic or distinguishing aspect provides information necessary to describe a fact or distinguish one fact from another fact.</td>
<td>An aspect is a piece of additional information that serves to uniquely identify a fact.</td>
<td>An axis differentiates facts, and each axis represents a way that the facts may be classified. A dimension can provide any additional qualification needed to fully identify a fact.</td>
</tr>
<tr>
<td>Parenthetical explanation</td>
<td>Facts may have parenthetical explanations which provide additional descriptive information about the fact.</td>
<td>A footnote is either a fact footnote or a text footnote.</td>
<td>Not defined</td>
</tr>
</tbody>
</table>

| Relation     | A relation is some interaction rule between the pieces which make up a financial report. There are three general types of relations:  
Whole-part: something composed exactly of their parts and nothing else; the sum of the parts is equal to the whole (roll up).  
Is-a: descriptive and differentiates one type or class of thing from some different type or class of thing; but the things do not add up to a whole.  
Computational: Other types of computational business rules can exist such as “Beginning balance + changes = Ending Balance” (roll forward) or “Net income (loss) / Weighted average shares = Earnings per share”. | Not defined | Not defined |
| Report fragment | A report fragment is a set of facts which go together (tend to be cohesive and share a certain common nature) for some specific purpose within a report. | Not defined | Not defined |
| Property (XBRL does not define, FASB uses term attribute) | A property is a trait, quality, feature, attribute, or peculiarity which is used to define its possessor and is therefore dependent on the possessor. | Not defined | A property of an element such as its name, balance, data type, whether it is abstract. |
| Grain | Grain is the level of depth of information or granularity. The lowest level of granularity is the actual transaction, event, circumstance, or other phenomenon represented in a financial report. | Not defined | Not defined |
| Fact table | A fact table is a set of facts which go together for some specific reason. All the facts in a fact table share the same characteristics. | Not defined | Not defined |
| Report element (XBRL does not define, FASB uses the term element) | A report element is what is used to construct the presentation structure of a report: Network, Table, Axis, Member, Line Items, Abstract, Concept | Network, Hypercube, Dimension, Member, Primary Items, Abstract, Primary Item | XBRL components (items, domain members, dimensions, and so forth). |
One final specific example will help make my point. It is important to understand and properly differentiate between the following three things:

- **Notion, idea, phenomenon**: something that exists in reality that needs to be represented
- **Name**: helps computers identify some notion/idea/phenomenon that is a representation of reality within some machine-readable conceptual model
- **Preferred label**: alternative ways used to refer to name

Confusing these three things can cause problems. Two things that are genuinely different should have two different names. However, if one thing is given two names when the one thing really is two different preferred labels problems can occur.

For example, the FASB defines the notion of “Equity” in the US GAAP conceptual framework. In the conceptual framework, the FASB defines “Equity”. The US GAAP Financial Reporting Taxonomy team defines the concept “us-gaap:StockholdersEquity”. The FASB states specifically in the conceptual framework that “Net assets” is another preferred label for describing the notion of “Equity”. “Stockholders’ equity”, “Partner capital”, and “Proprietors’ equity” are all preferred labels for the notion of “Equity”.

What specific guidance is provided by FASB team members creating the taxonomy or public companies creating extension taxonomies that helps answer the question, when is something a unique concept and when is something a different preferred label on an existing concept? Precise definitions of terms allow for precise discussions.

**Comment #2:** The US GAAP Financial Reporting Taxonomy team should consider providing a clear, precise, and concise definition of and explanation of a multidimensional model because all information in an XBRL-based financial report is multidimensional. This precise explanation of the multidimensional model would help increase the harmony between stakeholders. It would also help the FASB understand and relate to the US GAAP Financial Reporting Taxonomy.

The information contained in a financial report is inherently multidimensional. Models help understanding. For example, every professional accountant is familiar with the model of a spreadsheet which includes a “workbook”, a “spreadsheet”, “rows”, “columns”, and “cells” which are the intersection of a row and a column.
I have provided below the explanation of a multidimensional model that I use in the creation of software. I do not provide this as the definitive multidimensional model. Rather, I provide this to help understand what I am suggesting and the possible utility of providing this explanation to the creators of the US GAAP Financial Reporting Taxonomy and those creating reports using that taxonomy. Such a precisely defined model would increase harmony between stakeholders.

1.1. Multidimensional model

Professional accountants work with multidimensional[1] information every day and generally don’t realize that fact. In fact, many things are inherently multidimensional. Information reported in a financial report is absolutely multidimensional.

You might be familiar with the term multidimensional from business intelligence (BI) software. BI terms tend to represent the technical artifacts that are used to represent real world business phenomenon. Our terms describe the business phenomenon themselves, not a technical implementation. Further, BI dimensional model which is based on online analytical processing (OLAP) works slightly differently than our model which describes how the real world works. For example, in the real world there are numbers, text, and prose; but OLAP is focused only on numbers. In the real world, financial reports provide facts that represent totals; but in OLAP totals are calculated on the fly. Our model describes the real world. BI describes an implementation. Further, BI is non-standard so every implementation can use different terms and our model is based on XBRL, a global standard.

1.1.1. Multidimensional model terminology primer

A scalar is a fact which has no distinguishing characteristics; a scalar stands on its own needing no dimensional information to be understood.

<table>
<thead>
<tr>
<th>Fact Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.14</td>
</tr>
</tbody>
</table>

For example, the value of pi is a scalar, it never changes; it always has the same value for everyone. (Pi or π is the ratio of a circle's circumference to its diameter and always has the value of equal to 3.14).

A fact defines a single, observable, reportable piece of information contained within a financial report, or fact value, contextualized for unambiguous interpretation or analysis by one or more distinguishing characteristics. Facts can be numbers, text, or prose.

<table>
<thead>
<tr>
<th>Fact Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
</tr>
<tr>
<td>1000</td>
</tr>
</tbody>
</table>

For example, the two facts above with the values of “2000” and “1000”. However, the two facts above are not contextualized; you really have no idea what the numbers mean. To understand the facts, you need context.

A characteristic describes a fact (a characteristic is a property of a fact). A characteristic provides information necessary to describe a fact and distinguish one fact from another fact. A fact may have one or many distinguishing characteristics. Characteristics provide context.

<table>
<thead>
<tr>
<th>Concept</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revenues</td>
<td>2000</td>
</tr>
<tr>
<td>Net income</td>
<td>1000</td>
</tr>
</tbody>
</table>

For example, a characteristic of the number “2000” above is that it relates to revenues as opposed to the number “1000” which relates to net income.

Financial facts can have a number of characteristics.

<table>
<thead>
<tr>
<th>Reporting entity</th>
<th>Legal entity</th>
<th>Period</th>
<th>Concept</th>
<th>Value</th>
<th>Units</th>
<th>Rounding</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABC Company</td>
<td>Consolidated entity</td>
<td>Jan 1, 2011 to Dec 31, 2011</td>
<td>Revenues</td>
<td>2000</td>
<td>US Dollars</td>
<td>Thousands of dollars</td>
</tr>
<tr>
<td>ABC Company</td>
<td>Consolidated entity</td>
<td>Jan 1, 2011 to Dec 31, 2011</td>
<td>Net income</td>
<td>1000</td>
<td>US Dollars</td>
<td>Thousands of dollars</td>
</tr>
</tbody>
</table>

For example, some common characteristics include the reporting entity, legal entity, period, and concept which describe a reported financial fact.

And so a fact is the value and all of the characteristics which describe the value (including the traits which further describe numeric values).

Above we know that the value “2000” is for the concept “Revenues”, for the period “Jan 1, 2011 to Dec 31, 2011”, relates to the legal entity “Consolidated entity”, of the reporting entity “ABC Company”. We also know that the numeric value is expressed in the units US Dollars and are rounded to the nearest thousands of dollars.

Units and rounding are traits that describe the numeric facts. (Some people think that Units and Rounding are characteristics rather than traits.)

A fact table is a set of facts which go together for some specific reason. All the facts in a fact table share the same characteristics.
Above you see a fact table (outlined in green) that contains three facts (each outlined in red). Each of the three facts share the characteristics “Reporting entity”, “Legal entity”, “Geographic area”, “Period” and “Concept”.

A relation is how one thing in a financial report is or can be related to some other thing in a financial report. These relations are often called business rules. There are three primary types of relations (others can exist).

- **Whole-part**: something composed exactly of their parts and nothing else; the sum of the parts is equal to the whole (roll up).
- **Is-a**: descriptive and differentiates one type or class of thing from some different type or class of thing; but the things do not add up to a whole.
- **Computational business rule**: Other types of computational business rules can exist such as “Beginning balance + changes = Ending Balance” (roll forward) or “Originally stated balance + adjustments = Restated balance” (adjustment) or “Net income (loss) / Weighted average shares = Earnings per share”

So above we know that the value “2000” is for the concept “Revenues”, for the period “Jan 1, 2011 to Dec 31, 2011”, relates to the legal entity “Consolidated entity”, of the reporting entity “ABC Company” and is the total of all “Geographic Areas”. “North America” and “South America” are part of the whole “All Geographic Areas Combined”.

<table>
<thead>
<tr>
<th>Reporting entity</th>
<th>Legal entity</th>
<th>Geographic area</th>
<th>Period</th>
<th>Concept</th>
<th>Value</th>
<th>Units</th>
<th>Rounding</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABC Company</td>
<td>Consolidated entity</td>
<td>All Geographic Areas Combined</td>
<td>Jan 1, 2011 to Dec 31, 2011</td>
<td>Revenues</td>
<td>2000</td>
<td>US Dollars</td>
<td>Thousands of dollars</td>
</tr>
<tr>
<td>ABC Company</td>
<td>Consolidated entity</td>
<td>North America</td>
<td>Jan 1, 2011 to Dec 31, 2011</td>
<td>Revenues</td>
<td>1000</td>
<td>US Dollars</td>
<td>Thousands of dollars</td>
</tr>
<tr>
<td>ABC Company</td>
<td>Consolidated entity</td>
<td>South America</td>
<td>Jan 1, 2011 to Dec 31, 2011</td>
<td>Revenues</td>
<td>1000</td>
<td>US Dollars</td>
<td>Thousands of dollars</td>
</tr>
</tbody>
</table>
Comment #3: The US GAAP Financial Reporting Taxonomy team should consider providing more machine-readable rules that help the members of the FASB team, public companies using the taxonomy, investors, analysts, and the SEC develop a consistent understanding of the relations between concepts and other report elements provided in the US GAAP Financial Reporting Taxonomy.

The Merriam-Webster dictionary defines anarchy as “a situation of confusion and wild behavior in which the people in a country, group, organization, etc., are not controlled by rules or laws.” Business rules prevent information anarchy.

Business rules guide, control, suggest, or influence behavior. Business rules cause things to happen, prevent things from happening, or suggest that it might be a good idea if something did or did not happen. Business rules help shape judgment, help make decisions, help evaluate, help shape behavior, and help reach conclusions.

Business rules arise from the best practices of knowledgeable business professionals. A business rule is a rule that describes, defines, guides, controls, suggests, influences or otherwise constrains some aspect of knowledge or structure within some problem domain.

Don’t make the mistake of thinking that business rules are completely inflexible and that you cannot break rules. Sure, maybe there are some rules that can never be broken. Maybe there are some rules that you can break. It helps to think of breaking rules as penalties in a football game. The point is that the guidance, control, suggestions, and influence offered by business rules is a choice of business professionals. The meaning of a business rule is separate from the level of enforcement someone might apply to the rule.

The FASB team should consider including many, many more explicitly defined machine-readable business rules in the US GAAP Financial Reporting Taxonomy. XBRL offers the XBRL definition linkbase and XBRL Formula for representing business rules in machine-readable form. There is nothing that prohibits the use of XBRL definition relations and XBRL Formula based rules for representing business rules. Public companies would not need to submit the XBRL definition relations or XBRL Formula based rules to the SEC. Personally, I would suspect that as more software vendors support things like XBRL definition relations and XBRL Formula, then the SEC would warm up to accepting these XBRL-based rule formats which help make sure the meaning conveyed within XBRL-based financial reports is done so correctly.

Today, there is too much “anarchy” or wild behavior that is used to create XBRL-based financial reports. Business rules would contribute to increasing harmony between the stakeholders that create the taxonomy, stakeholders that create reports based on the taxonomy, and stakeholders that use information from the reports created using the taxonomy.

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Comment #4: The US GAAP Financial Reporting Taxonomy team should consider proactively anticipating that XBRL-based financial reports will ultimately be audited.

The FASB taxonomy team, on page 8 of the Invitation to Comment makes the following statement:

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1.11. The above issues may affect an auditor’s ability to provide assurance on XBRL Reports. Future developments or changes in regulatory requirements relative to XBRL data could increase the urgency for others to reassess auditor assurance on the XBRL Reports.
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All things considered, ultimately XBRL-based financial reports created by public companies and private companies, if private companies one day choose to leverage the XBRL format, will be audited. This is inevitable. There is no other way to be sure that different economic entities representing information using the XBRL format to convey information consistently such that the information is of the quality necessary to make that information usable in the automated processes of investors, analysts, data aggregators, regulators, and others.

Comment #5: The US GAAP Financial Reporting Taxonomy team should consider using more testing and improved testing processes to determine if the strategies and techniques which are used or proposed to be used to create the US GAAP Financial Reporting proven to work as expected before the techniques are employed.

Deciding how to create the US GAAP Financial Reporting Taxonomy is a detailed engineering task. Engineering is the application of a systematic, disciplined, quantifiable, methodical, rigorous approach to the development, operation, and maintenance of something. Part of a solid engineering process is appropriate, methodical, deliberate testing. The FASB should consider maintaining an XBRL-based report that pulls all the key pieces of a financial report together to test the interaction of those pieces to make certain that the pieces interact as expected.

FASB Question 1 (page 18): Should dimensions be used in tagging the primary financial statements?

Comment #6: Yes, dimensions should be used on the primary financial statements when it is appropriate to use dimensions on the primary financial statements.
One example of when dimensions is necessary to convey meaning correctly in the primary financial statements is when an economic entity needs to differentiate the “successor” and “predecessor” information. There are other examples.

Rather than ask this question and then speculate on whether dimensions should, or should not, be used on the balance sheet would be to analyze 100% of public company financial filings to the SEC to determine whether or not using dimensions on the primary financial statements is appropriate or not. Testing can be effectively and efficiently performed using automated processes to assess 100% of the reporting situations.

**FASB Question 2 (page 18): Should dimensions be primarily used for disaggregation, with a limited set of known exceptions?**

**Comment #7:** It is unnecessary to speculate whether using “disaggregation” should be the primary use of dimensions to characterize information. Testing 100% of all XBRL-based reports to determine how using XBRL dimensions are being used can determine the appropriate use of dimensions.

Further, the meaning of “disaggregation” is unclear and therefore it is impossible to properly evaluate the FASB’s question. The meaning of “disaggregation” should be make unambiguous and clear to allow for proper communications between stakeholders to understand and decide this issue.

There are at least three different potential used for XBRL dimensions to convey meaning. Those representation situations include:

- **Whole-part:** something composed exactly of its parts and nothing else; the sum of the parts is equal to the whole. For example, a roll up is a whole-part relation. (Is this what is meant by “disaggregation” by the FASB team?)
- **Is-a:** descriptive and differentiates one type or class of thing from some different type or class of thing; but the things do not add up to a whole. (For example, a successor and a predecessor are differentiated using dimensions)
- **Computational:** Other types of computational business rules can exist such as “originally stated balance + adjustments = restated balance” and “actual – forecast = variance”

As such, it is doubtful that “dimensions should only be used for disaggregation” should be a rule followed by the FASB team in the creation of the US GAAP Financial Reporting Taxonomy.

Again, testing of 100% of the XBRL-based financial reports of public companies can be used to determine the different possible used of XBRL dimensions to convey meaning. Further, I
question the consistency of interpretation of the multidimensional model of XBRL-based reports as another factor in determining the appropriate use of XBRL dimensions.

**FASB Question 4 (page 21):** Are there other methods to simplify element selection that you would suggest? How would those methods improve the usability of the GAAP taxonomy?

**Comment #8:** There are three approaches that I would suggest to the FASB team to help the element selection process: (1) Introduce an intermediate “report fragment” notion within the taxonomy, (2) be more explicit in articulating relations between concepts in the taxonomy, and (3) introduce the notion of “class” or “type” into the framework of the taxonomy.

At the top most, high level, of the US GAAP Financial Reporting Taxonomy is the “network”. At the bottom, detailed level, of the taxonomy is the “concept”. There is nothing between the “network” and the “concept” that is consistently usable by software or by users because between the “network” and the “concept” the representing of the US GAAP Financial Reporting Taxonomy is inconsistent.

Sometimes, the [Table] is used to organize information. But the [Table] is not useable for two reasons. First, [Table]s can have different meaning, in technical terms they are polymorphic. For example, “Statement [Table]” is polymorphic because that [Table] can be used to convey different meaning. For example, “Statement [Table]” could be used to represent a balance sheet, an income statement, or a cash flow statement. Or, if you look at the Microsoft 10-K you can see that the “Statement [Table]” is used to represent a plethora of different disclosures. Therefore, it is the case that using the same [Table] to represent different report artifacts, [Table]s are generally useless.

Secondly, [Table]s are used inconsistently to represent structures in the taxonomy. Sometimes [Table]s are used, other times [Table]s are not used. Software vendors can effectively work around this issue and still create intermediate level objects that are useful to software users. But most software vendors are fearful of creating such intermediate level structures or do not understand XBRL and financial reports deeply enough to understand how to do so.

The FASB team using [Table]s explicitly and consistently to represent all report fragments would begin to help software vendors to create functionality that will help users navigate the US GAAP Financial Reporting Taxonomy.

The SEC has a rule, “Use the most detailed concept,” to represent information, but it is challenging to understand what the most detailed concept is using the current taxonomy.
organization. If the XBRL definition relations were used to more explicitly represent relations, this situation could be improved. Rather than everything being a “parent-child” relation, different types or relations or categories of relations can be used.

Finally, the notion of “class” or “type” is common in the creation of a taxonomy yet the FASB team does not ever use those terms, let alone define those terms. If these terms were defined and used, more useful structures could be create in the taxonomy.

FASB Question 5 (page 24): What types of implementation resources supporting registrant use of the GAAP Taxonomy are most efficient and effective? How would you prioritize registrant need for the types of implementation resources listed in paragraphs 1.54 and 1.55 (as well as any others that you think would be considered).

Comment #9: The XBRL technical syntax is very expressive and can be used to represent all sorts of resources in machine-readable form. Software vendors are familiar with the XBRL technical syntax and properly implemented software can leverage new resources. One aspect of XBRL that is underutilized is XBRL definition relations.

XBRL-based machine-readable business rules that are declarative in nature, readable by business professionals, maintained by business professionals would substantially contribute to the utility of the US GAAP Financial Reporting Taxonomy.


Machine-readable metadata will drive the software that will be used to create financial reports in the future. The more machine-readable metadata provided with the US GAAP Financial Reporting Taxonomy, the more utility the taxonomy will provide. Here are some specific examples of how machine-readable metadata could be used.

- **Frequently asked questions**: FAQ would be represented using XBRL labels with perhaps a “commentary” label role or a new role could be added, the “frequentlyAskedQuestions” label role. That information could be then read by software and provided to software users. Some FAQ that relate to specific concepts in the taxonomy and that information can be provided to taxonomy users via software.

- **Taxonomy Disclosure Templates**: One of the better ideas the FASB team has come up with is the notion of “taxonomy disclosure templates”. However, the implementation of
templates can be greatly improved. Templates should be more focused, smaller, and given specific unique names.

- **Be more explicit in existing representations**: The US GAAP Financial Reporting Taxonomy uses various “markers” to identify parts of the taxonomy. For example, “[Roll Forward]” is used to identify each roll forward in the taxonomy. Yet, no roll ups are identified, for example using the “[Roll Up]” marker. Other patterns can likewise be identified. This will help creation and maintenance of the taxonomy as well as users of the taxonomy.

- **Make use of XBRL Formula to represent mathematical computations**: XBRL Formula is not used at all by the FASB team. The IFRS taxonomy makes use of XBRL Formula to a degree. XBRL calculations can be used to represent exactly one type of computation, a roll up. Clearly there are many other types of mathematical computations in financial reports.

- **Samples and examples in XBRL format**: One of the best ways to understand how to use the US GAAP Financial Reporting Taxonomy is through the use of samples and examples of proven best practices.

I appreciate the opportunity to comment on the effectiveness and efficiency of the US GAAP Financial Reporting Taxonomy. The taxonomy is an important artifact of the digital age, this will become increasingly apparent in the coming years. If you have any questions or would like to discuss my views further, please do not hesitate to contact me.

Yours faithfully,

Charles Hoffman, CPA

cc: Campbell Pryde, CEO, XBRL US, Inc.

Mike Willis, Assistant Director, Office of Structured Disclosure, Division of Economics and Risk Analysis, U. S. Securities and Exchange Commission