METHOD Tutorial

This tutorial walks professional accountants through a proven, good practices-based method¹ for creating provably high-quality XBRL-based digital general purpose financial reports.

Every professional accountant understands their responsibility for creating a "faithful representation" or a "true and fair" financial report that are free from error that convey information about the financial position and financial performance of an economic entity. Auditors understand their role of independently verifying that such financial reports comply with some financial reporting scheme rules and are free from material misstatement. Certified Public Accountants (CPAs) and Chartered Accountants (CAs) have an additional layer of responsibility called for by their professional code of ethics. Professional accountants generally learn all of this in their intermediate accounting courses in college.

While professional accountants are comfortable with creating these faithful representations of financial information when the information is presented in human readable form on a piece of paper or using what amounts to "e-paper" such as PDF, HTML, or a Microsoft Word document.

Today these professional accountants are also responsible for faithful representations of financial information in machine-readable forms such as XBRL-based digital general purpose financial reports.

But how exactly do professional accountants know when such XBRL-based financial reports are faithful representations that truly and fairly convey the intended meaning the creators of these machine-readable reports wanted to communicate?

That is what we will show you in this tutorial.

Step 1: Complete the other report creation tutorials.

The first step is for you to complete the set of Luca tutorials. Note that the *Accounting Equation Tutorial*² showed you how to input information into Luca manually. The *SFAC 6 Tutorial*³ taught you how to use the Luca import functionality. The *Common Elements of Financial Statement Tutorial*⁴ helped you import something that looked close to a very basic financial report. The *MINI Financial Reporting Scheme Tutorial*⁵ has you work through something that looks more like a real financial report. And finally, we add the *PROOF Tutorial*⁶ which adds a complete set of additional complexities that you will encounter when working with real XBRL-based financial reports within a tiny financial report model and financial report.

¹ Seattle Method, <u>http://xbrlsite.com/seattlemethod/SeattleMethod.pdf</u>

² Accounting Equation Tutorial, <u>http://xbrlsite.azurewebsites.net/2021/luca/AccountingEquation-Tutorial.pdf</u>

³ SFAC 6 Tutorial, <u>http://xbrlsite.azurewebsites.net/2021/luca/SFAC6-Tutorial.pdf</u>

⁴ Common Elements of Financial Statement Tutorial, <u>http://xbrlsite.azurewebsites.net/2021/luca/Common-Tutorial.pdf</u>

⁵ MINI Financial Reporting Scheme Tutorial, <u>http://xbrlsite.azurewebsites.net/2021/luca/MINI-Tutorial.pdf</u>

⁶ PROOF Tutorial, <u>http://xbrlsite.azurewebsites.net/2021/luca/PROOF-Tutorial.pdf</u>

What these report model and report creation tools do is help you understand the logical components that make up an XBRL-based digital financial report.

This tutorial will help you understand what a properly functioning logical system that is complete, consistent, and precise is and how to determine if your XBRL-based digital financial report fits those criteria.

Step 2: Understanding that it is about the Logic.

So, do XBRL-based digital financial reports need to be proper XBRL technical format? Absolutely. But checking the XBRL technical format is as simple as having the right piece of software, a fully compliant XBRL processor, and pressing a button. It is literally that simple. Why? Because XBRL International publishes a conformance suite⁷ that every conformant XBRL processor is required to pass in order to say that they are a fully conformant XBRL processor.

Now, you still need to understand how to know when an XBRL processor is a fully conformant XBRL processor.

Step 3: Understanding what can Go Wrong.

The next thing you need to understand is the types of things that can go wrong. Here is that list of the things that can go wrong starting with that XBRL technical format. What can go wrong is articulated by pointing out the machine-readable rules that are used to describe what is permitted and differentiate that from what is not permitted.

- XBRL Technical Syntax: This category of rules is provided by XBRL International in the form of a machine-readable set of rules referred to as a conformance suite⁸. This conformance suite is 100% automatable via computer-based processes and used to be sure the XBRL technical format is consistent with the expectations of the XBRL Technical specification.
- 2. **Report Model Structure**: This category of rules overcomes missing information related to the relationship between the categories of report elements that are used to structure a financial report model. While the permissible sorts of XBRL calculation relations and XBRL definition relations and certain aspects of XBRL presentation relations are specified by the XBRL technical specification; information about the permissible associations between the categories of report elements as shown by the matrix below are not specified. The report model structure rules simply explicitly specify these rules as to what associations are permitted and what associations are not permitted: (note that "Table" is an alias to the term "Hypercube" and that "Axis" is an alias to the term "Dimension" used by the US GAAP and IFRS XBRL taxonomies)

⁷ XBRL International, *XBRL Specification*, <u>https://specifications.xbrl.org/work-product-index-group-base-spec-base-spec-base-spec.html</u>

⁸ XBRL International, XBRL 2.1, <u>https://specifications.xbrl.org/work-product-index-group-base-spec-base-spec.html</u>

					Parent				
		Network	Table	Axis	Member	Line Items	Abstract	Concept	
	Network	Illegal XBRL	Illegal XBRL	Illegal XBRL	Illegal XBRL	Illegal XBRL	Illegal XBRL	Illegal XBRL	
-	Table	ОК	Disallowed	Disallowed	Disallowed	Disallowed	OK	Disallowed	
	Axis	Disallowed	OK	Disallowed	Disallowed	Disallowed	Disallowed	Disallowed	
Child	Member	Disallowed	Disallowed	ОК	ОК	Disallowed	Disallowed	Disallowed	
0	Line Items	Disallowed	ОК	Disallowed	Disallowed	Disallowed	Disallowed	Disallowed	
	Abstract	ОК	Disallowed	Disallowed	Disallowed	OK	ОК	Disallowed	
	Concept	Disallowed Disallowed Disa		Disallowed	Disallowed	ОК	OK	Disallowed	

- 3. Type or class relations (a.k.a. type-subtype relations): This category of rules specifies allowed subtype relations for each type defined in an XBRL taxonomy. Other terms for this are "is-a" relations or "general-special" relations or "wider-narrower" relations. An example would be a type-subtype rule that specifies that "Accounts Payable" is a sub type of the "Current Liabilities" type. This prevents the inadvertent use of "Accounts Payable" as a part of "Noncurrent Liabilities" or "Equity", etc.
- 4. Fundamental accounting concepts: This category of rules specifies information that helps detect common inconsistencies and contradictions within a financial report⁹. Consistency cross checks are created¹⁰ against expectation. There are many examples of the types of errors that have been known to commonly occur¹¹. For example, for US GAAP XBRL-based financial reports submitted to the SEC a common error was to use the concept "us-gaap:NoncurrentAssets" to represent information for which the concept "us-gaap:AssetsNoncurrent" should have been used.
- 5. **Disclosure mechanics:** This category of rules is used to specify the permissible representations of each specific disclosure. For example, the disclosure "Components of Inventories" would be specified to be a "roll up" mathematical relation which uses the concept "us-gaap:InventoryNet" or a permissible alternative to represent that total. Disclosure mechanics rules likewise specify that the concept "us-gaap:ScheduleOfInventoriesTextBlock" should be used to represent the Level 3 disclosure text block disclosure.
- 6. **Reporting checklist:** This category of rules is used to specify the permissible sets of disclosures that are required to exist within a financial report. For example, the fact that a balance sheet is always required to be included can be specified, as would be the case for an income statement, statement of cash flow, or statement of changes in equity. The fact that a combined statement of comprehensive income and income could be used as an alternative can be specified. Finally, if a specific line item such as "Inventories" is provided on the balance sheet, the fact that an inventories policy and inventories disclosure must be provided can be specified.
- 7. **To do list (manual review):** This category of rules is for cases where either (a) a rule CANNOT be specified in machine-readable terms because the rules language used is not expressive enough to represent the rule or (b) a rule COULD have been represented but it simply HAS NOT been

⁹ Quarterly XBRL-based Public Company Financial Report Quality Measurement (March 2019), http://xbrl.squarespace.com/journal/2019/3/29/quarterly-xbrl-based-public-company-financial-report-quality.html

¹⁰ Consistency cross check rules, <u>http://xbrlsite.azurewebsites.net/2019/Library/Signals_2019-03-31.jpg</u>

¹¹ High-quality examples of errors, <u>http://xbrl.squarespace.com/journal/2017/4/29/high-quality-examples-of-errors-in-xbrl-based-financial-repo.html</u>

represented and therefore manual work is necessary to verify report logic that could have been automated.

Can other things go wrong? Absolutely. For example, a report can be wrong because it has a spelling error in one of the disclosures. The fix? Add additional machine-readable rules or check the other things manually.

I am not saying that these seven categories of rules are necessarily sufficient to prove everything that can go wrong within an XBRL-based financial report. What I am saying is that these are the types of things that other XBRL-based financial reports have commonly gotten wrong, can lead to logical contradictions and inconsistencies, are necessary to be right in order to make use of reported financial information, and are therefore necessary to check. Are other rule categories necessary? Absolutely; for example further restrictions specified by the SEC or the ESMA are good examples. Those rules must be checked also if you report to one of those regulators.

Step 4: Specific Logical Details of What can Go Wrong.

You can understand the specific types of logical errors that can occur in the Microsoft 10-K or any US GAAP or IFRS based XBRL-based financial report by looking at the types of errors that can exist in the **accounting equation representation**. This section explains those logical error types.

The following is a comparison of 9 states of the same simple financial report logical system, the accounting equation¹². The point of using such a simple financial report logical system is to explain specific things that can go wrong so that a reader can understand why each of the categories of rules are necessary.

These 9 states can occur in any financial report with one fragment, two fragments, or 194 fragments like the Microsoft 10 K.

There are many ways to get a report wrong. Here is a summary of all nine states of an improperly functioning financial report logical system. These things that can go wrong are the impediments that get in the way of you creating a properly functioning logical system.

But first we want to establish a baseline of what a correct financial report looks like which is our state #1. In the graphic below the first state outlined in green being the only properly functioning logical system proven to be complete, consistent, and precise:

¹² Accounting equation, <u>http://xbrlsite.azurewebsites.net/2020/master/ae/index.html</u>



In the following sections I want to make some adjustments to the properly functioning logical system which make the logical system either inconsistent, incomplete, or imprecise and explain why the system

is then not a properly functioning logical system. I made videos that explain each of these impediments to a properly functioning logical system which you can see in this video playlist, *Understanding the Financial Report Logical System*¹³.

Again, before we get to the improperly functioning logical systems, let's take one final look at the properly functioning logical system so that you can use that as a baseline for comparing and contrasting the properly functioning and improperly functioning logical systems so that you can understand they sorts of errors that could occur in any XBRL-based financial report.

State 1: Properly Functioning Logical System

For completeness, I want to start by mentioning again our properly functioning logical system which is consistent, complete, and precise. It can be helpful to contrast other states to this state to understand the difference between properly functioning logical systems and improperly functioning systems.





Again, this is considered a properly functioning logical system because (a) all the statements within the system are **consistent**; (b) the set of statements that describe the system is **complete**; and (c) the information conveyed by the system is **precise** in its representation of reality. Further, we are formally declaring this "reality"¹⁴ to be our base understanding.

Also, we need to be explicit. We defined three terms "Assets", "Liabilities", and "Equity".

Now, you may know what those three terms are; but a computer does not. You have to define what you work with relative to something that you know. Imagine our system defines four terms, "fac:Assets", "fac:Liabilities", "fac:Equity", and "fac:LiabilitiesAndEquity"¹⁵. You understand your system but you have to map every external system into your system¹⁶. Your internal system understands more that the accounting equation system (i.e. you have LiabilitiesAndEquity and the rule "LiabilitiesAndEquity = Liabilities + Equity"). You have to be able to compute that value based on some other system's information¹⁷. It is perfectly reasonable for our system to create a concept LiabilitiesAndEquity and compute that value even though the accounting equation logical system does not have that explicit value.

 ¹³ Understanding the Financial Report Logical System, <u>https://www.youtube.com/playlist?list=PLqMZRUzQ64B7EWamzDP-WaYbS_W0RL9nt</u>
 ¹⁴ YouTube, *Reality*, <u>https://youtu.be/eq2Jw6waaCl</u>

¹⁵ Fundamental accounting concepts, <u>http://xbrlsite.azurewebsites.net/2020/core/master-ae/fac.xsd</u>

¹⁶ Mapping from accounting equation to fundamental accounting concepts in our system, <u>http://xbrlsite.azurewebsites.net/2020/core/master-ae/fac-mapping-definition.xml</u>

¹⁷ XBRL Formula to derive the value for LiabilitiesAndEquity, <u>http://xbrlsite.azurewebsites.net/2020/core/master-ae/fac-ImputeRule-</u> LiabilitiesAndEquity-formula.xml

The point is that different economic entities have different models; but all models of a financial reporting scheme are reconcilable from/to one another in some manner¹⁸.

State 2: Incomplete Coverage by Rules

The logical system #2 below is intended to show exactly the same information as our #1 properly functioning logical system, except that #2 leaves out the rule "Assets = Liabilities and Equity" which is showed as grayed out (i.e. because it is assumed to be missing from the logical system.

Coverage is a measure of how well you **do** or **can** represent a domain of information within a logical system. "Do" is about using the tools you have correctly and effectively. "Can" is about the capabilities of the tools you are using to represent the rule.

For example, if your logical system neglects to include the rule "Assets = Liabilities + Equity" or if your tools don't provide the capabilities to allow you to represent that rule; then there is the possibility that the facts being represented to be represented incorrectly and the system will not detect the inconsistency. As such, that logical system has **incomplete coverage**.



While this specific state #2 does have the Assets, Liabilities, and Equity facts consistent with the absent rule; the system is still incomplete because the coverage can be improved by adding the missing rule. If that missing rule is added, then the logical system can be considered complete again.

State 3: Inconsistent and Imprecise

All the statements in the system must be consistent for the logical system to be considered properly functioning. If statements are inconsistent, the logical system is not properly functioning. In this system #3, the values for Assets, Liabilities, and Equity are inconsistent with the rule "Assets = Liabilities + Equity". From looking at the information provided, it is impossible to know exactly which of the three facts are incorrect; it is only possible to understand that the statements made within the logical system is inconsistent. It could be the case that the rule is incorrect.

¹⁸ Charles Hoffman, CPA, Special Theory of Machine-based Automated Communication of Semantic Information of Financial Statements, http://xbrl.squarespace.com/journal/2019/12/30/special-theory-of-machine-based-automated-communication-of-s.html



However, given that we know from state #1 that the value for Assets is 5,000 and not 8,000; the facts in this system is imprecise because the fact for Assets does not reflect reality. (We have, for the purposes of explaining these examples, defined reality and in that reality Assets = 5,000.)

State 4: Unreported Facts

In state #4, the situation is that the economic entity representing information in their report neglected to include the fact for Liabilities. Whether it is the case that a fact can, or cannot, be left unreported is a decision that can be made by the stakeholders of the system.

If it is the case that it is decided that the fact "Liabilities" can be omitted if both Assets and Equity are reported; then you must provide a rule to derive the value of Liabilities when that fact is not reported.

Below you see that the system has been adjusted in state #4' to add the rule "IF Assets exists and if Equity exists; THEN Liabilities = Assets - Equity"¹⁹. (*NOTE that this rule should actually be "IF Assets exists and if Equity exists and if not(exists) Liabilities; THEN Liabilities = Assets - Equity"*)



If it were likewise true that either Assets²⁰ or Equity²¹ could also be left unreported, similarly derivation rules could be created for each of those facts. Note that XBRL Formula chaining²² can be used to physically derive unreported facts if any one of these three facts remain unreported. Note that it is

¹⁹ Here is the impute or derivation rule that would be added to the accounting equation logical system for this situation, <u>http://xbrlsite.azurewebsites.net/2020/core/master-ae/ImputeRule-Key-1-Code-BS-Impute-01-formula.xml</u>

²⁰ XBRL Formula rule for deriving Assets, <u>http://xbrlsite.azurewebsites.net/2020/core/master-ae/ImputeRule-Key-3-Code-BS-Impute-03-</u> formula.xml

²¹ XBRL Formula rule for deriving Equity, <u>http://xbrlsite.azurewebsites.net/2020/core/master-ae/ImputeRule-Key-2-Code-BS-Impute-02-formula.xml</u>

²² Deriving Facts Using XBRL Formula Chaining (Example), <u>http://xbrl.squarespace.com/journal/2019/4/24/deriving-information-using-xbrl-formula-chaining-example.html</u>

impossible to derive missing information if any two of the facts remain unreported. Adding the derivation rule makes the system complete.

Allowing certain line items of a report to go unreported specifies the need to create rules to derive missing information. Or saying this another way, omitting the possibility of unreported facts negates the need for creating derivation rules.

A second downside of allowing unreported facts is that you lose the parity check or cross check if facts can go unreported. Said another way, it would be considered good or best practice to not leave important high-level financial report line items to go unreported.

State 5: Incomplete

Similar to state #4, in state #5 the logical system is incomplete because both (a) the fact Liabilities is unreported and also (b) the consistency rule "Assets = Liabilities + Equity" is missing from the logical system. Because both a fact and the rule are missing from the logical system, it would be impossible to deduce the value of Liabilities in this case. There is not enough information in the logical system to allow Liabilities to be derived.

At a minimum, a consistency crosscheck rule²³ plus the derivation rule to impute Liabilities²⁴ would be necessary.



Again, consistent with state #4; Assets and Equity would require similar rules and there is no parity check of reported information.

State 6: Imprecise

A logical system is a true and fair representation of some agreed upon realism within some area of knowledge. **Precision** is a measure of how precisely you do or can represent the information of a domain within a logical theory. The reality that we formalized in state #1 indicates that "Assets = Liabilities + Equity". Yet, in the state #6 example, the rule "Assets = Liabilities" was provided. Further, the values of Assets and Liabilities are, in fact, consistent with the rule that has been provided.

Remember that in state #1 we formalized our truth to be that "Assets = Liabilities + Equity". As such, this logical system can be described as being imprecise. To make this logical system precise, all that

²³ XBRL Formula consistency crosscheck rule Assets = Liabilities + Equity, <u>http://xbrlsite.azurewebsites.net/2020/core/master-ae/Consistency-5-Code-BS01-formula.xml</u>

²⁴ XBRL Formula derivation rule to impute Liabilities, <u>http://xbrlsite.azurewebsites.net/2020/core/master-ae/ImputeRule-Key-1-Code-BS-Impute-01-formula.xml</u>

needs to be done is to fix the rule "Assets = Liabilities" and make that rule consistent with our reality which states that "Assets = Liabilities + Equity".



State 7: Extension Concept

In state #7 on the left, what we are trying to convey is that the economic entity reported the fact for Liabilities using the extension concept "Payables" that it had created. If a fact is represented using an extension concept created by a reporting entity; then a "general-special" or "wider-narrower" or "class-equivalentClass" association must be created to indicate to software applications of the relationship so that information can be used correctly. State #7' on the right, the rule "Payables is a specialization of the more general term Liabilities" has been added to the logical system which allows the system to operate effectively²⁵.



And so, the graphic below shows a fragment of the knowledge graph on page 9 above before and after the information that "Payables is a specialization of the more general term Liabilities," was added. On the left you see State 7, the taxonomy before the information was added and on the right you see "Payable" being added as an extension concept indicating that there is a "wider-narrower" relationship between Payables and Liabilities. Therefore, a machine based process can utilize the information per State 7' because the process understands Liabilities in the taxonomy, understands the "wider-narrower" relationship therefore knowing that "Payables" is a type of Liability.

²⁵ XBRL Definition relations showing example of a mapping rule, <u>http://xbrlsite.azurewebsites.net/2020/core/master-ae/fac-mapping-definition.xml</u>



State 8: Base Taxonomy Wider/Narrower Concept Use

State #8 on the left below is similar to state #7 in that a different concept is used to report a fact; but while state #7 focuses on using an extension concept; state #8 points out that using a wider or narrower base taxonomy concept gives exactly the same result.

Now, our base state #1 does not have the concept "Payables"; but let's assume for a moment that it does have the concept "Payables". Also suppose that there was no information in the base logical system indicating the relationship between "Payables" and any other concept. If a fact is represented using a BASE TAXONOMY CONCEPT by a reporting entity; then a "general-special" or "wider-narrower" or "class-equivalentClass" association must exist in that base taxonomy to indicate that some concept is a permissible alternative for some other concept.

State #8' on the right adds the rule "Payables is a specialization of the more general term Liabilities"²⁶.



And so, the graphic below shows a fragment of the knowledge graph on page 9 above before and after the information that "Payables is a specialization of the more general term Liabilities," was added. On the left you see State 8, the base taxonomy before the information was added and on the right you see "Payable" being added as an extension concept indicating that there is a "wider-narrower" relationship between Payables and Liabilities. Therefore, a machine based process can utilize the information per State 8' because the process understands Liabilities in the base taxonomy, understands the "widernarrower" relationship therefore knowing that "Payables" is a type of Liability, and therefore can understand what you are conveying.

²⁶ XBRL Definition relations showing example of a mapping rule, <u>http://xbrlsite.azurewebsites.net/2020/core/master-ae/fac-mapping-definition.xml</u>



State 9: Defining a Completely New Structure

State #9 below on the left focuses on the structure as contrast all the prior examples which focused on the terms and rules. If a new structure is created, the new structure must be referenced to the base taxonomy and the new structure needs to be explained using machine-readable rules²⁷. Even base taxonomy structures need to be defined in order to be referred to²⁸. When you say "Balance Sheet" you know what that means. But a machine does not know.

A base taxonomy should (a) provide all necessary structures separately, not intermingle different models in the same set of associations and (b) define what each structure must look like. Remember, computers are like babies and need to be led by the hand in order to understand the details you need them to understand.



Finally, in our case we have only one disclosure, the Balance Sheet. In our case, the Balance Sheet is always required to be reported per this logical system. As such, that rule is stated in a machine-readable reporting checklist²⁹. Other logical systems with more disclosures will have more rules relating to when a disclosure is required to be provided in a report.

Similar to how "Payables" was added as an extension of the terms in the logical system; we can extend the structures to include a "Liquidation Basis Balance Sheet" structure which is a specialization of a Balance Sheet:

²⁷ XBRL Definition relations used to represent structure rules, <u>http://xbrlsite.azurewebsites.net/2020/core/master-ae/dm-1355-rules-def.xml</u>

²⁸ XBRL taxonomy schema used to define "Balance Sheet", <u>http://xbrlsite.azurewebsites.net/2020/core/master-ae/disclosures.xsd</u>

²⁹ XBRL Definition relations used to represent a reporting checklist or disclosure rules, <u>http://xbrlsite.azurewebsites.net/2020/core/master-ae/reporting-checklist-rules-def.xml</u>



And such, an automated process will be able to understand the new structure because it is related to an existing structure. Other structures could be added in this same manner and only identified as a type of structure. But if you want to understand what that structure is, you need to associate any newly defined structure relative to some existing structure. Humans will only understand the difference by reading the documented associated with the new structure.

Step 5: Divide and Conquer.

How do you eat an elephant? A bite at a time. We take a similar approach when we verify an XBRLbased digital financial report.

- 1. We bring into consciousness and therefore understand the verification tasks that need to be performed.
- 2. We bring into consciousness the notion that a report is a collection of fragments, or information blocks, to which each verification task is performed.
- 3. We bring into consciousness the notion that some information blocks interact with other information blocks within a report and there should be no contradictions or inconsistencies between report information blocks.

In terms of **verification tasks**; XBRL Syntax validation, category 1 above, provides only a small subset of what must be verified to be correctly represented within an XBRL-based financial report. Categories 2 through 6 must either be (a) also represented using machine-readable rules and therefore verifiable using automated processes or (b) verified using manual processes which are less reliable and therefore more prone to error; which tends to be impractical. Category 7 must always be verified using manual processes; no way to automate these tasks.

All verification tasks, categories 1 through 7, must be performed for **each fragment** of an XBRL-based financial report to prove that each individual fragment is consistent, complete, and precise and that **any intersection between one report fragment** and some other report fragment is consistent (i.e., does not contradict or is not inconsistent with some other report fragment). The graphic below summarizes this visually:

A R	II Disclosures, All ules	Se Base	Bugging Model Structure *	Windows Type or Class Relations *	Rules	Disdosure Mechanics *	Reporting Cheddist *	
	(standard syntax)	·~~	vom	Rep	ert Validation Status	m	hann	and a
\wedge	Balance Sheet	~	~	~	~	~	~	~
	Income Statement	~	~	~	~	~	~	~
	Statement of Changes in Equity	~	~	~	~	~	~	~
	Cash Flow Statement	~	~	~	~	~	~	<
ures	Nature of Operations	~	~	~	~	~	~	~
clos	Basis of Reporting	~	~	~	>	~	~	1
Dis	Cash and Cash Equivalents Subclassifications	~	~	~	~	~	~	>
	Allowance for Doubtful Accounts Roll Forward	~	~	~	~	~	~	~
		~	~	~	~	~	~	>
	What SBRM, Logical Theory of Financial Report (i.e. Method and Framework) provide	~	~	~	~	~	~	~

If 100% of the rule categories (verification tasks) are specified for 100% of the disclosures (report information blocks) that exist within an XBRL-based report; then a conscious process (control mechanism) is provided to verify that the financial information conveyed within an XBRL-based report is consistent with specified statutory and regulatory rules and other structural, mechanical, mathematical, and logical rules.

System specific rules such as the SEC Edgar Filer Manual rules or the ESMA's European Single Electronic Format (ESEF) are simply further restrictions and therefore additional rules; just another column in the grid above. Additional columns of rules can be added, but no columns can be removed.

For example, if one desired to add the XBRL US "Data Quality Checks", then a new column is simply added. Want to add a "spell checker"? That can be added also. But you simply cannot remove an existing column because then errors can slip into the system.

Regulators and others can always add additional restrictions, but they cannot be sloppy and leave out the tasks and processes that make sure XBRL-based financial reports are fundamentally correct in the logical areas that we have pointed out where logical errors commonly occur. Ignoring these obvious logical errors is considered gross negligence; as a professional you should have known.

Further, when such processes leverage Lean Six Sigma philosophies and techniques³⁰, financial report quality can be controlled (as contrast to making mistakes and then spending hours and hours of human effort to detect and correct errors).

Remember the following. Control is achieved by using rules. Rules guarantee high-quality. High quality results in effective automation. Because the method is thorough and complete, processes can be

³⁰ Lean Six Sigma, <u>http://www.xbrlsite.com/mastering/Part01_Chapter02.K_LeanSixSigma.pdf</u>

effectively automated. How exactly can you be sure your financial report is a true and fair representation of the financial position and financial performance of your entity without testing it to be sure the report is working effectively? If you cannot measure it, you cannot control it.

Process automation and automated verification reduces the risk of noncompliance. Hope and chance are not good strategies for complying with statutory and regulatory reporting rules.

Being able to effectively exchange information between processes which enables the automation of those processes provides social benefit. Among those benefits are cost reduction, process quality improvement, ability to provide new products/services, and improved functioning of capital markets resulting from these process improvements.

So, we will start small and explain step-by-step how this method works. We will start with a tiny financial report where we represent the apex of double entry accounting, the accounting equation. From the accounting equation we increase the number of disclosures (fragments) from one to three. Common elements of financial reports increase things more. Proof adds sophistication of reported components. Then the MINI Financial Reporting Scheme helps you see what a basic financial reporting scheme looks like³¹. Finally, we apply this method to a real XBRL-based financial report, the Microsoft 10-K.

Step 6: Examining Incrementally Larger XBRL-based Financial Reports.

We are now going to walk through incrementally larger and larger XBRL-based financial reports to help you understand, and believe, that the simple accounting equation examples of impediments to a properly functioning logical system can explain common things that go wrong in significantly larger XBRL-based financial reports such as annual financial reports submitted to the SEC or ESMA.

But, let's start small and grow your understanding!

Accounting Equation

The accounting equation represents the fundamental model of double entry accounting: Assets = Liabilities + Equity. This implies three terms: Assets, Liabilities, Equity. A report created to represent the accounting equation in the form of an XBRL-based digital financial report would include:

- Three terms: Assets, Liabilities, Equity
- One structure: Balance Sheet
- Three associations: Assets is part of a Balance Sheet; Liabilities is part of a Balance Sheet; Equity is part of a Balance Sheet.
- One rule: Assets = Liabilities + Equity
- Three facts: Assets of 5000; Liabilities of 1000; Equity of 4000

³¹ Updated Luca Documenation and Tutorials, <u>http://xbrl.squarespace.com/journal/2021/10/11/updated-luca-tutorial-documentation-learn-about-digital-fina.html</u>

There are other unimportant details that you could deal with but which we will ignore here such as labels, languages, currency units, and so forth. All of these details are handled by XBRL and the examination of a detailed example can help you understand those details³².

Our focus is on a higher. We want to help you see that a report is made up of blocks of information, that disclosures are represented using these blocks of information, and that you can determine whether your report contains all the required disclosures represented by the blocks of information.

Visually, this is what our tiny accounting equation report would look like in an application that can load such an XBRL-based digital financial report:

Components (1)			द	Rendering	Model Structure	Fact Table	Business Rul	es Structure	Business Rules Validation Results	Elements
0 H 1 H	O a b b			Component: (Netwo	rk and Table)					
O Network view	Component view	O Block view		Network	01 - Unknown - Balar	nce Sheet				
Filter Type	▼ Filter Level	▼ Filter Status	-	Table	Balance Sheet [Hyper	cube]				
				Reporting Entity [Axis]	_	GH259400TOMPUOL	S65II http://s	tandards.iso.org/iso/17442	Ť
Enter text to filter		•	Clear	Unit [Axis]			USD			Ŷ
the set of the s	01-Balance Sheet Balance Sheet [Hypercube]				Period [Axis] 📼					
				Balance Sheet [Line It	ems]		2019-12-31			
				Balance Sheet [Arit	hmetic]					
				Assets				5,000		
				Liabilities				1,000		
				Equity				4,000		
Component Prope	rties		^							
Network	01-Bala	ance Sheet								
Table	Balano	e Sheet [Hypercube]]							
Disclosure	disclos	ures:BalanceSheet								
Confidence	MEDIU	м								
Status	InProg	ress								
Collections			~							
Advanced			~							

The following provides a summary of the details we will be focusing on from an XBRL-based financial report. We will be focusing on these specific details in the other report examples as we build up to what an accountant would consider to be a real example of a financial report.

Information Blocks:

Blocks (1)	द
Balance Sheet [Arithmetic]	

Disclosures:

Primary	Yrimary Information											
#	Disclosure	Category	Level	Pattern	Disclosure Found	Disclosure Consistent	Applicable	Representation Concept [TEXT BLOCK]	Representation Concept DETAIL			
± :	Balance Sheet	Unknown	Level4Detail	Hierarchy	True	CONSISTENT	True	NOT-EXPECTED	Assets			

Reporting checklist:

#	ŧ		Disclosure	Checklist Category	Reason Disclosure Must Exist	Discovered	Expectation Met	Link to Disclosure Mechanics
~	/ 0		Reporting Checklist					
		1	Balance Sheet	Required disclosure	Disclosure always required	True	CONSISTENT	Balance Sheet

³² Accounting Equation represented using XBRL, <u>http://xbrlsite.azurewebsites.net/2020/master/ae/index.html</u>

We are going to take the time to describe what you should be focusing on as you proceed through the coming examples. The objective is to see and understand the similarities, or patterns, that exist for each of these small reports and also for the larger "real" XBRL-based digital financial report.

In this accounting equation example, we see that:

- We have one information block, "Balance Sheet [Arithmetic]"
- That single information block is used to represent the one disclosure in this example, "Balance Sheet" disclosure.
 - This disclosure follows the mechanical rules for representing that disclosure using the XBRL technical syntax.
- The reporting checklist specifies that the disclosure "Balance Sheet" is required to exist.

All of the above is enforced using XBRL-based machine-readable rules that, when processed by a logic/rules/reasoning engine, can determine if a block of information is properly functioning.

Our focus here is not on those rules or how the rules are processed. Our focus is on the blocks of information; that each block of information can be verified to be properly functioning, complete, and precise; and that if we can do this for one block of information then the same technique can be applied to other blocks of information in a similar manner.

The accounting equation example has exactly one block of information that is used to represent one disclosure that is the one required fragment that needs to exist within this tiny financial report we have specified as the accounting equation. But let's now expand our example slightly.

SFAC 6

SFAC 6 represents the *Elements of Financial Statements*³³ defined by the FASB in SFAC 6. SFAC 6 builds on the accounting equation and adds a handful of additional elements. The elements are: Assets, Liabilities, Equity, Comprehensive Income, Revenues, Expenses, Gains, Losses, Investments by Owners, Distributions to Owners. The 10 elements are organized into three structures: Balance sheet, Comprehensive Income, Changes in Equity. There are three rules that describe the mathematical relationships of the elements: Assets = Liabilities + Equity; Comprehensive Income = Revenues -Expenses + Gains - Losses; Equity^{T1} = Equity^{T0} + Comprehensive Income + Investments by Owners -Distributions to owners.

We are not going to explain all the details, but will rather focus on the specific details which help the reader see the patterns we are pointing out.

³³ SFAC 6 representation, <u>http://xbrlsite.azurewebsites.net/2020/master/sfac6/index.html</u>

Components (3)	8	Rendering	Model Structure	Fact Table	Business Rules Structure	e Business Rules Validation Resu	Its Elements
	-	Component: (Netwo	ork and Table)				
 Network View O 	Component View 💛 Block View	Network	01 - Unknown - Balar	ce Sheet			
Filter Type	er Level 🗶 Elter Statur	Table	Balance Sheet [Hyper	cube]			
Писттурс		Reporting Entity [Axi	s]		GH259400TOMPUOLS65II http:/	//standards.iso.org/iso/17442	Ŷ
Enter text to filter	T Clear	Linit [Avie]					
Enter text to niter m		Offic [Posis]			1030		
01-Balance Sheet Balance	e Sheet [Hypercube]				Period [Axis] 🛛 🔫		
02-Comprehensive Income	Comprehensive Income Statement [Hypercube]	Balance Sheet [Line]	Items]		2020-12-31	2019-12-31	
03-Changes in Equity Cha	anges in Equity [Hypercube]	Balance Sheet [Ari	thmetic Expression]				
		Assets			3,500	0	
		Liabilities			0	0	
		Equity			3,500	0	
Component Properties							
Network	01-Balance Sheet						
Table	Balance Sheet [Hypercube]						
Disclosure	disclosures:BalanceSheet						
Confidence	MEDIUM						
Status	InProgress						
Collections	~						
Advanced	~						
Collections Advanced	v v						

Information Blocks:

Blocks (3)	R
Balance Sheet [Arithmetic]	
Comprehensive Income [Roll Up]	
Changes in Equity [Roll Forward]	

Disclosure mechanics:

	Show more information											
Primar	/ Information											
#	Disclosure	Category	Level	Pattern	Disclosure Found	Disclosure Consistent	Applicable	Representation Concept [TEXT BLOCK]	Representation Concept DETAIL			
÷	1 Balance Sheet	Unknown	Level4Detail	Hierarchy	True	CONSISTENT	True	NOT-EXPECTED	Assets			
÷	2 Changes in Equity	Unknown	Level4Detail	RollForward	True	CONSISTENT	True	NOT-EXPECTED	Equity			
÷	3 Comprehensive Income	Unknown	Level4Detail	RollUp	True	CONSISTENT	True	NOT-EXPECTED	Comprehensive Income			

Reporting checklist:

#			Disclosure	Checklist Category	Reason Disclosure Must Exist	Discovered	Expectation Met	Link to Disclosure Mechanics
Y	0		Reporting Checklist					
	1		Balance Sheet	Required disclosure	Disclosure always required	True	CONSISTENT	Balance Sheet
		2	Comprehensive Income	Required disclosure	Disclosure always required	True	CONSISTENT	Comprehensive Income
	3		Changes in Equity	Required disclosure	Disclosure always required	True	CONSISTENT	Changes in Equity

We do want to introduce the notion of articulation, the fact that the three disclosures provided are intentionally and inextricably linked together:

Comprehensive Income Statement [Line Items] 2020-01-01 2020-12-31 Comprehensive Income [Roll Up] Revenues 9,7,)1 - 1
Comprehensive Income [Roll Up] Revenues 7,	
Revenues 7.	
	7,000
(Expenses) (3,	,000)
Gains 1,	1,000
Period [Axis] (Losses) (2,	2,000)
Balance Sheet [Line Items] 2020-12-31 2019-12-31 Comprehensive Income 3,	3,000
Palara Shaet [Arithmatic Expraction]	
Datance Sheet Partonneck CApression]	xis]
Assets 3,500 0 2020-01-01	1 -
Lacinus 0 0 Changes in Equity [Line Items] 2020-12-31	1
Equity 3,500 0 Changes in Equity [Roll-Forward]	
Equity, Beginning Balance	0
Comprehensive Income 3,	3,000
Investments by Owners 1.	,000
(Distributions to Owners)	(500)
Equity, Ending Balance	3,500

The point here is that we have three information blocks as contrast to the one of the first example, we have three disclosures as contrast to the one of the first example, and that all three disclosures are intentionally mathematically interconnected.

Our tiny financial report is growing! Let us now grow it some more.

Common Elements of Financial Statement

The common elements of financial statements build on SFAC 6 by adding a hand full of additional report elements which enables the construction of a more recognizable balance sheet and adds report elements for a cash flow statement.

In addition, this example highlights the notion that different economic entities creating financial reports might use different structures to represent reported information. For example, a for profit economic entity would likely use a "Balance Sheet" whereas a not-for-profit economic entity might use a "Statement of Net Assets".

While different economic entities might report using different styles of information structures; each disclosure can be represented as a specific block of information which has specific mechanical, mathematical, logical, and other such relations. But fundamentally, they are blocks of information; only different blocks of information.

And so, a financial report that would represent the common elements of a financial statement might look something like the following³⁴:

³⁴ Common Elements of Financial Statement (Four Statement Model), <u>http://xbrlsite.azurewebsites.net/2020/master/common/index.html</u>

Components (7)		Rendering	Model Structure	Fact Table	Business Rules Structur	re Business Rules Validation Resu	Its Elements		
Network View O Component View O Block View		Component: (Netwo	rk and Table)	as Charat					
		Table	Balance Sheet [Hyper	ce Sneet					
Filter Type 🔹 Filter Level 😴 Filter Status 👻		Table	Datance Sheet (Hyper	ubej					
		Reporting Entity [Axis]]		GH259400TOMPUOLS65II http://standards.iso.org/iso/17442				
Enter text to filter Clear		Unit [Axis] USD							
01-Balance Sheet Balance Sheet [Hypercube]			Period [Axis] 🚽						
D2-Net Assets ◆ Net Assets [Hypercube]		Balance Sheet [Line It	ems]		2020-12-31	2019-12-31			
03-Comprehensive Income Comprehensive Income Statement [Hypercube]		Assets [Roll Up]							
⊕ 04-Comprehensive Income 2 ◆ Comprehensive Income Statement ■		Current Assets			500	0			
O5-Comprehensive Income 3 ◆ Comprehensive Income Statement		Noncurrent Assets			3,000	0			
O6-Cash Flow Cash Flow [Hypercube]		Assets			3,500	0			
	-11	Liabilities and Equity [Roll Up]							
		Liabilities [Roll Up]							
	-11	Current Liabilities			0	0			
Network 01-Ralance Cheet		Noncurrent Liabilities			0	0			
Table Balance Sheet [Hypercube]				Liabilities	0	0			
Disclosure disclosures:BalanceSheet		Equity [Roll Up]							
Confidence MEDIUM		Equity Attributable To	Controlling Interests		2 000	0			
Status InProgress		Equity Attributable to 1	Noncontrolling Interests		5,000	0			
Collections ~			,	Equity	2 500	0			
Advanced 🗸			Liabil	ities and Equity	3,500	0			
			Liabi	inco and Equity	3,500	0			

Information Blocks:

Blocks (9)
Assets [Roll Up]
Liabilities and Equity [Roll Up]
Net Assets [Roll Up]
Comprehensive Income [Roll Up]
Comprehensive Income [Roll Up]
Comprehensive Income [Roll Up]
Assets Roll Forward [Roll Up] [Roll Forward]
Net Cash Flow [Roll Up]
Changes in Equity [Roll Forward]

Disclosure mechanics:

Primar	Primary Information												
# Disclosure Category L			Level	Pattern	Disclosure Found	Disclosure Consistent Applica		Representation Concept [TEXT BLOCK]	Representation Concept DETAIL				
±	1	Assets Roll Forward	Unknown	Level4Detail	RollForward	True	CONSISTENT	True	NOT-EXPECTED	Assets			
±	2	Assets Roll Up	Unknown	Level4Detail	RollUp	True	CONSISTENT	True	NOT-EXPECTED	Assets			
±	3	Balance Sheet	Unknown	UNKNOWN	Component	True	CONSISTENT	True	-	•			
±	4	Cash Flow Statement	Unknown	UNKNOWN	Component	True	CONSISTENT	True	-	•			
±	5	Changes in Equity	Unknown	Level4Detail	RollForward	True	CONSISTENT	True	NOT-EXPECTED	Equity			
Ξ	6	Comprehensive Income	Unknown	Level4Detail	RollUp	True	CONSISTENT	True	NOT-EXPECTED	Comprehensive Income			
Ð	7	Comprehensive Income 2	Unknown	Level4Detail	RollUp	True	CONSISTENT	True	NOT-EXPECTED	Comprehensive Income			
Ŧ	8	Comprehensive Income 3	Unknown	Level4Detail	RollUp	True	CONSISTENT	True	NOT-EXPECTED	Comprehensive Income			
±	9	Liabilities and Equity Roll Up	Unknown	Level4Detail	RollUp	True	CONSISTENT	True	NOT-EXPECTED	Assets			
±	10	Net Assets Roll Up	Unknown	Level4Detail	RollUp	True	CONSISTENT	True	NOT-EXPECTED	Net Assets			
±	11	Net Cash Flow Roll Up	Unknown	Level4Detail	RollUp	True	CONSISTENT	True	NOT-EXPECTED	Net Cash Flow			

Reporting checklist:

Reporting Checklist Balance Sheet 2 Assets Roll Up 3 Liabilities and Equity Roll Up Cash Flow Statement	Required disclosure Part of disclosure Part of disclosure Required disclosure	Disclosure always required, satisfied by Assets Roll Up and Liabilities an Satisfies Balance Sheet disclosure Satisfies Balance Sheet disclosure	True True True	CONSISTENT CONSISTENT CONSISTENT	Balance Sheet Assets Roll Up Liabilities and Equity Roll Up
Balance Sheet 2 Assets Roll Up 3 Liabilities and Equity Roll Up Cash Flow Statement	Required disclosure Part of disclosure Part of disclosure Required disclosure	Disclosure always required, satisfied by Assets Roll Up and Liabilities an Satisfies Balance Sheet disclosure Satisfies Balance Sheet disclosure Disclosure Auways required, satisfied by Net Cash Elwa Roll Up and Ass	True True True	CONSISTENT CONSISTENT CONSISTENT	Balance Sheet Assets Roll Up Liabilities and Equity Roll Up
2 Assets Roll Up 3 Liabilities and Equity Roll Up Cash Flow Statement	Part of disclosure Part of disclosure Required disclosure	Satisfies Balance Sheet disclosure Satisfies Balance Sheet disclosure Disclosure always required satisfied by Net Cach Flow Roll I In and Ass	True True	CONSISTENT	Assets Roll Up Liabilities and Equity Roll Up
3 Liabilities and Equity Roll Up Cash Flow Statement	Part of disclosure Required disclosure	Satisfies Balance Sheet disclosure	True	CONSISTENT	Liabilities and Equity Roll Up
Cash Flow Statement	Required disclosure	Disclosure always required, satisfied by Net Cash Flow Roll I In and Ass	Taura		
		biscosore amays required, satisfied by net cost now toil op and Assim	True	CONSISTENT	Cash Flow Statement
5 Net Cash Flow Roll Up	Part of disclosure	Satisfies Cash Flow Statement disclosure	True	CONSISTENT	Net Cash Flow Roll Up
6 Assets Roll Forward	Part of disclosure	Satisfies Cash Flow Statement disclosure	True	CONSISTENT	Assets Roll Forward
Comprehensive Income	Required disclosure	Disclosure always required	True	CONSISTENT	Comprehensive Income
Comprehensive Income 2	Required disclosure	Disclosure always required	True	CONSISTENT	Comprehensive Income 2
Comprehensive Income 3	Required disclosure	Disclosure always required	True	CONSISTENT	Comprehensive Income 3
Net Assets Roll Up	Possible disclosure	Disclosure is present	True	CONSISTENT	Net Assets Roll Up
11 Changes in Equity Required disclosure		Disclosure always required	True	CONSISTENT	Changes in Equity
•	Net Cash Flow Roll Up Assets Roll Forward Comprehensive Income Comprehensive Income 2 Comprehensive Income 3 Net Assets Roll Up Changes in Equity	5 Net Cash Flow Roll Up Part of disclosure 5 Assets Roll Forward Part of disclosure Comprehensive Income Required disclosure Comprehensive Income 2 Required disclosure Comprehensive Income 3 Required disclosure Net Assets Roll Up Possible disclosure Changes in Equity Required disclosure	5 Net Cash Flow Roll Up Part of disclosure Satisfies Cash Flow Statement disclosure 5 Assets Roll Forward Part of disclosure Satisfies Cash Flow Statement disclosure 5 Comprehensive Income Required disclosure Disclosure always required Comprehensive Income 2 Required disclosure Disclosure always required Comprehensive Income 3 Required disclosure Disclosure always required Net Assets Roll Up Possible disclosure Disclosure is present Changes in Equity Required disclosure Disclosure always required	5 Net Cash Flow Roll Up Part of disclosure Satisfies Cash Flow Statement disclosure True 5 Assets Roll Forward Part of disclosure Satisfies Cash Flow Statement disclosure True Comprehensive Income Required disclosure Disclosure always required True Comprehensive Income 2 Required disclosure Disclosure always required True Comprehensive Income 3 Required disclosure Disclosure always required True Net Assets Roll Up Possible disclosure Disclosure is present True Changes in Equity Required disclosure Disclosure always required True	5 Net Cash Flow Roll Up Part of disclosure Satisfies Cash Flow Statement disclosure True CONSISTENT 5 Assets Roll Forward Part of disclosure Satisfies Cash Flow Statement disclosure True CONSISTENT Comprehensive Income Required disclosure Disclosure always required True CONSISTENT Comprehensive Income 2 Required disclosure Disclosure always required True CONSISTENT Comprehensive Income 3 Required disclosure Disclosure always required True CONSISTENT Net Assets Roll Up Possible disclosure Disclosure is present True CONSISTENT Net Assets Roll Up Possible disclosure Disclosure always required True CONSISTENT Changes in Equity Required disclosure Disclosure always required True CONSISTENT

Articulation³⁵:

					Period [Axis]		
			-	Cash Flow [Line Items]	2020-01-01 - 2020-12-31		
	Perio	od [Axis]		Net Cash Flow [Bell Up]			
Balance Sheet [Line Items]	2020-12-31	2019-12-31		Net Cash Flow Oceaning Astronomy	AND ALL TO A		
Assets [Roll Up]				Net Cash Flow Investing Activities	1,500		
Current Assets	500	0		Net Cash Flow Financing Activities	1,000		
Noncurrent Assets	3.000	0		Net Cash Flow	3,500		
Assets	3,500	0	_		5/500		
				Assets Roll Forward [Roll Up]			0.114.11
Liabilities and Equity [Roll Up]				Assets, Beginning-Balance	> 0		Period [Axis]
Liabilities [Roll Up]				Net Cash Flow	3,500	Comprehensive Income Statement [Line Items]	2020-01-01 -
Current Liabilities		0	1	Assats Ending Palance	2 500	Comprehensive Income [Roll Un]	
Noncurrent Liabilities	0	0 0		Harca, chang balance	3,300	Revenuer	7.000
Liabilities	(0				(Expenses)	(3,000)
L STANDARS OF CONTRACTOR STANDARS						Gaips	(3,000)
Equity [Roll Up]					Period [Axis]	(Losses)	(2,000)
Equity Attributable To Controlling Interests	3,000	0 0			2020-01-01 -	Comprehensive Income	3.000
Equity Attributable to Noncontrolling Interests	500	0		Changes in Equity [Line Items]	2020-12-31		
Equity	3,500	0 0		Changes in Equity [Roll Forward]			
Liabilities and Equity	3 500	0.		Equity, Beginning Balance	0		
	5/500			Comprehensive Income	3,000		
3				Investments by Owners	1,000		
				(Distributions to Owners)	(500)		
				Equity, Ending Balance	3,500		

And so, the number of information blocks and disclosures continues to grow, but the patterns we see are exactly the same but are only increasing in volume.

Proof

In the subsequent examples, we take the information structures that are provided in the example and then represent them as an XBRL-based financial report. We have done this for the accounting equation, SFAC 6 Elements of Financial Statements, and the Common Elements of Financial Statements.

The PROOF representation takes the opposite approach.

The PROOF³⁶ example model was created by observing the full set of about 6,023 US GAAP based financial reports submitted to the SES and about 406 IFRS based financial reports submitted to the SEC, examining 100% of the information patterns we find and then combining all those information patterns into a single report we call PROOF.

As we will show, all the logical information artifacts we see in the PROOF representation can be leveraged to represent, say, the Microsoft 10-K financial report³⁷. Likewise, these logical artifacts can be likewise used to represent the financial reports of Apple, Amazon, Google/Alphabet, Facebook,

³⁵ Common Elements of Financial Statement, Articulation, <u>http://xbrlsite.azurewebsites.net/2020/core/master-common/ArticulationFourStatementModel.jpg</u>

³⁶ Understanding Proof, <u>http://xbrlsite.azurewebsites.net/2020/Library/UnderstandingProof.pdf</u>

³⁷ Microsoft Analysis, <u>http://xbrl.squarespace.com/journal/2020/4/13/microsoft-xbrl-based-report-analysis.html</u>

Salesforce³⁸. Likewise, these logical artifacts are all that you need to represent any one of the 6,023 10-K financial reports which submits information using XBRL to the SEC using the US GAAP or IFRS financial reporting schemes³⁹.

Here is a summary of those logical artifacts:



Similar results were achieved with another earlier analysis of 6,751 US GAAP based 10-K financial reports⁴⁰.

Further, these logical artifacts that are used for US GAAP and IFRS will work for literally any other financial reporting scheme⁴¹. A financial reporting scheme by definition (a) follows the rules of the double entry accounting model, (b) follows the rules of the accounting equation in some form, and (c) defines some set of elements of financial statements. And so, this very basic representation of SFAC 6

³⁸ Software Companies Prototype, <u>http://xbrl.squarespace.com/journal/2020/4/2/software-companies-prototype.html</u>

 ³⁹ Breaking down the pieces, <u>http://xbrl.squarespace.com/journal/2019/4/9/breaking-down-the-pieces-of-an-xbrl-based-digital-financial.html</u>
 ⁴⁰ Analysis of 6,751 XBRL-based Public Company 10-Ks Submitted to SEC,

http://www.xbrlsite.com/mastering/Part05 Chapter08.F AnalysisOf675110Ks.pdf

⁴¹ Comparison of Financial Reporting Schemes, <u>http://xbrlsite.azurewebsites.net/2020/master/ElementsOfFinancialStatements.pdf</u>

elements of financial statements⁴² can be created for any financial reporting scheme; you simply use the terms and associations defined by that specific financial reporting scheme.

Finally, if I am incorrect and there is some other logical artifact that is necessary to represent financial reports from some other financial reporting scheme; that logical artifact simply needs to be added to the PROOF logical artifacts, explained the PROOF until it does meet that need.

Components (9)	Rendering	Model Structure	Fact Table	Business R	ules Structure	Business Rules Validation R	esults Elements		
0	Component: (Netwo	rk and Table)							
Network View O Component View O Block View	Network	01 - Unknown - Balar	ice Sheet						
Filter Type T Filter Level T Filter Status	Table	Balance Sheet [Hyper	cube]						
	Reporting Entity [Axis	porting Entity [Axis] GH259400TOMPUOLS65II http://standards.iso.org/iso/17442							
Enter text to filter	Unit [Axis]			I USD					
O1-Balance Sheet Balance Sheet [Hypercube]		Period [Axis] 🚽							
02-Comprehensive Income Comprehensive Income Statement [Hypercube]	Balance Sheet [Line I	tems]		2020-12-3	31	2019-12-31			
03-Changes in Equity Changes in Equity [Hypercube]	Balance Sheet [Arit	hmetic Expression]							
04-Prior Period Errors Prior Period Errors [Hypercube]	Assets				3 500	0			
05-Variance Analysis Variance Analysis [Hypercube]	Liabilities				5,500	0	-		
⊕ 06-Stock Plan Activity ◆ Weighted Average Grant Date Fair Value	Faulty				0 500	0	_		
07-Financial Highlights Financial Highlights [Hypercube]	Equity				3,500	U			
09-Segment Revenues Segment Revenues [Hypercube]									

And so, here are the logical artifacts of the PROOF representation⁴³:

⁴² SFAC 6 representation, <u>http://xbrlsite.azurewebsites.net/2020/master/sfac6-basic/</u>

⁴³ PROOF representation, <u>http://xbrlsite.azurewebsites.net/2020/master/proof/index.html</u>

Information Blocks:

Blocks (11)
Balance Sheet [Arithmetic Expression] [Hierarchy]
Comprehensive Income [Roll Up]
Changes in Equity [Roll Forward]
Prior Period Errors [Adjustment]
Variance Analysis [Roll Up]
Weighted Average Grant Date Fair Value [Roll Forward Info]
Financial Highlights [Set] [Hierarchy]
Basis of Reporting [Text Block]
Nature of Operations [Text Block]
Revenue Recognition Policy [Text Block]
Sgement Revenues [Set] [Hierarchy]

Disclosures:

Primar	Primary Information											
#	# Disclosure Category Level		Pattern	Disclosure Found	Disclosure Consistent	Applicable	Representation Concept [TEXT BLOCK]	Representation Concept DETAIL				
±	1 Balance Shee	et	Unknown	Level4Detail	Hierarchy	True	CONSISTENT	True	NOT-EXPECTED	Assets		
±	2 Basis of Repo	orting	Unknown	Level 1TextBlock	TextBlock	True	CONSISTENT	True	Basis of Reporting [Text Block]	NOT-EXPECTED		
±	3 Changes in E	quity	Unknown	Level4Detail	RollForward	True	CONSISTENT	True	NOT-EXPECTED	Equity		
±	4 Financial High	nlights	Unknown	Level4Detail	Hierarchy	True	CONSISTENT	True	NOT-EXPECTED	Revenues		
±	5 Income State	ement	Unknown	Level4Detail	RollUp	True	CONSISTENT	True	NOT-EXPECTED	Comprehensive Income		
±	6 Nature of Op	erations	Unknown	Level 1TextBlock	TextBlock	True	CONSISTENT	True	Nature of Operations [Text Block]	NOT-EXPECTED		
±	7 Prior Period E	Errors	Unknown	Level4Detail	Adjustment	True	CONSISTENT	True	NOT-EXPECTED	Equity		
±	8 Revenue Rec	ognitio	Unknown	Level 1TextBlock	TextBlock	True	CONSISTENT	True	Revenue Recognition Policy [Text Block]	NOT-EXPECTED		
±	9 Segment Rev	enues	Unknown	Level4Detail	Hierarchy	True	CONSISTENT	True	NOT-EXPECTED	Revenues		
± :	0 Stock Plan Ad	tivity	Unknown	Level4Detail	RollForwar	True	CONSISTENT	True	NOT-EXPECTED	Nonvested Fair Value		
÷	1 Variance Ana	lysis	Unknown	Level4Detail	RollUp	True	CONSISTENT	True	NOT-EXPECTED	Comprehensive Income		

Reporting Checklist:

#		Disclosure	Checklist Category	Reason Disclosure Must Exist	Discovered	Expectation Met	Link to Disclosure Mechanics
~ 0		Reporting Checklist					
	1 Balance Sheet		Required disclosure	Disclosure always required	True	CONSISTENT	Balance Sheet
	2	Income Statement	Required disclosure	Disclosure always required	True	CONSISTENT	Income Statement
	3	Changes in Equity	Required disclosure	Disclosure always required	True	CONSISTENT	Changes in Equity
	4	Financial Highlights	Possible disclosure	Disclosure is present	True	CONSISTENT	Financial Highlights
	5	Prior Period Errors	Possible disclosure	Disclosure is present	True	CONSISTENT	Prior Period Errors
	6	Variance Analysis	Possible disclosure	Disclosure is present	True	CONSISTENT	Variance Analysis
	7	Segment Revenues	Possible disclosure	Disclosure is present	True	CONSISTENT	Segment Revenues
	8	Stock Plan Activity	Possible disclosure	Disclosure is present	True	CONSISTENT	Stock Plan Activity
	9 Basis of Reporting		Required disclosure	Disclosure always required	True	CONSISTENT	Basis of Reporting
	10	Nature of Operations	Required disclosure	Disclosure always required	True	CONSISTENT	Nature of Operations
	11	Revenue Recognition Policy	Required disclosure	Disclosure always required	True	CONSISTENT	Revenue Recognition Policy

Articulation⁴⁴:

⁴⁴ Proof, Articulation, <u>http://xbrlsite.azurewebsites.net/2020/master/proof/ProofMathematicalComputations.jpg</u>



And so again the volume continues to increase but the shape or pattern that each new information block and all the logical artifacts necessary to describe the information block, and therefore disclosures represented using that information block, do not change.

MINI

Our final example, which I refer to as the MINI financial reporting scheme⁴⁵ which has some interesting characteristics related to internal financial reporting, rounds out our examples. The MINI is represented more like a complete financial reporting scheme than a single report. It does not have all the sophisticated information models of the PROOF, but it ties information together in another way using the accounting system trial balance.

Components (35)	R.	Rendering	Model Structure	Fact Table	Business Rules Structur	e Business Rules Validation Results	Elements				
		Component: (Networ	k and Table)								
Network view O Block view		letwork 1001 - Document Information									
Filter Type Tilter Level Filter Status	-	Table Document Information [Hypercube]									
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1001 - Document - Document Information ◆ Document Information					Period [Axis] 🛛 🗸						
[nypercube]		Document Information [Line Items]			2018-01-01/2018-12-31						
1002 * Document * Entry Information • Entry Information [https://document.ell		Document Informati	ion [Set]								
□ 1101 - Statement - Datance Sheet Datance Sheet (hypercube)		Reporting Style Code			MINI-BSC-IS01-CF1						
1103 - Statement - Cash Flow Statement Gash Flow Statement		Document Title			Financial Statement						
Hypercube]		Balance Sheet Date			2018-12-31	2018-12-31					
1104 - Statement - Statement of Changes in Equity Statement of Changes in Equity [Hypercube]		Income Statement Star	t Period		2018-01-01						
2110 - Disclosure - Nature of Business Note (Level 1 Note Text Blocks) ◆		Document Identifier			1234567890-0987654321						
H Nature of Business [Hypercube]		Document Fiscal Period	l Focus		FY						
2120 - Disclosure - Basis of Reporting Note (Level 1 Note Text Blocks) Basis of Reporting [Hypercube]		Document Fiscal Year F	Focus		2020						
2130 - Disdosure - Significant Accounting Policies Note (Level 1 Note Text Blocks) ♦ Significant Accounting Policies [Hypercube]											
2300 - Disdosure - Cash and Cash Equivalents Note (Level 1 Note Text Blocks) ◆ Cash and Cash Equivalents Note [Hypercube]											
2400 - Disdosure - Receivables Note (Level 1 Note Text Blocks) Receivables Note [Hypercube]											
2500 - Disdosure - Inventories Note (Level 1 Note Text Blocks) ◆ Inventories Note [Hypercube]											
2600 - Disdosure - Property, Plant, and Equipment Note (Level 1 Note Text Blocks) ◆ Property, Plant and Equipment Note [Hypercube]											
2700 - Disclosure - Accounts Payable Note (Level 1 Note Text Blocks) Accounts Payable Note [Hypercube]											
2800 - Disclosure - Long-term Debt Note (Level 1 Note Text Blocks) ◆ Long-term Debt Note [Hypercube]											
2900 - Disclosure - Retained Earnings Note (Level 1 Note Text Blocks) Retained Earnings Note [Hvpercube]	-										

Information Blocks:

⁴⁵ MINI Financial Reporting Scheme, <u>http://xbrlsite.azurewebsites.net/2019/Prototype/mini/documentation/Home.html</u>

Blocks (57)	сł
Document Information [Set] [Hierarchy]	*
Entity Information [Set] [Hierarchy]	
Assets [Roll Up]	
Liabilities and Equity [Roll Up]	
Net Income (Loss) [Roll Up]	
Cash Flow Statement [Roll Forward]	≣
Net Cash Flow [Roll Up]	
Equity [Roll Forward]	
Nature of Business [Text Block]	
Basis of Reporting [Text Block]	
Significant Accounting Policies [Text Block]	
Cash and Cash Equivalents Note [Text Block]	
Receivables Note [Text Block]	
Inventories Note [Text Block]	
Property, Plant and Equipment Note [Text Block]	
Accounts Payable Note [Text Block]	
Long-term Debt Note [Text Block]	
Retained Earnings Note [Text Block]	
Cash and Cash Equivalents Policies [Text Block]	
Receivables Policies [Text Block]	
Inventories Policies [Text Block]	م.

Disclosure Mechanics:

Primary	imary Information												
#		Disdosure	Category	Level	Pattern	Disclosure Found	Disclosure Consistent	Applicable	Representation Concept [TEXT BLOCK]	Representation Concept DETAIL			
Ξ	1	Accounts Payable Roll Forward	Unknown	Level3TextBlock/Level4Detail	RollForward	True	CONSISTENT	True	Accounts Payable Roll Forward [Text Block]	Accounts Payable			
Ħ	2	Accounts Payable Subclassifications	Unknown	Level3TextBlock/Level4Detail	RollUp	True	CONSISTENT	True	Accounts Payable Subclassifications [Text Block]	Accounts Payable			
±.	3	Assets Roll Up	Unknown	Level4Detail	RollUp	True	CONSISTENT	True	NOT-EXPECTED	Assets			
Ħ	4	Balance Sheet, Classified	Statement	UNKNOWN	Component	True	CONSISTENT	True	•	-			
Ħ	5	Basis of Presentation	Unknown	Level 1TextBlock	TextBlock	True	CONSISTENT	True	Basis of Reporting [Text Block]	NOT-EXPECTED			
Ð	6	Cash and Cash Equivalents Roll Forward	Unknown	Level3TextBlock/Level4Detail	RollForward	True	CONSISTENT	True	Cash and Cash Equivalents Roll Forward [Text Block]	Cash and Cash Equivalents			
Ð	7	Cash and Cash Equivalents Subclassifications	Unknown	Level3TextBlock/Level4Detail	RollUp	True	CONSISTENT	True	Cash and Cash Equivalents Subclassifications [Text Block]	Cash and Cash Equivalents			
Ħ	8	Cash and Cash Equivalents Summary Roll Forward	Unknown	Level4Detail	RollForward	True	CONSISTENT	True	NOT-EXPECTED	Cash and Cash Equivalents			
Ð	9	Cash Flow Statement, Direct Method	Statement	UNKNOWN	Component	True	CONSISTENT	True	*	-			
Ð	10	Document Information	Unknown	Level4Detail	Hierarchy	True	CONSISTENT	True	NOT-EXPECTED	Balance Sheet Date			
Ξ	11	Entity Information	Unknown	Level4Detail	Hierarchy	True	CONSISTENT	True	NOT-EXPECTED	Economic Entity Name			
Ħ	12	Finished Goods Subclassifications	Unknown	Level3TextBlock/Level4Detail	RollUp	True	CONSISTENT	True	Finished Goods Subclassifications [Text Block]	Finished Goods			
Ð	13	Income Statement	Unknown	Level4Detail	RollUp	True	CONSISTENT	True	NOT-EXPECTED	Net Income (Loss)			
Ξ	14	Inventories Roll Forward	Unknown	Level3TextBlock/Level4Detail	RollForward	True	CONSISTENT	True	Inventories Roll Forward [Text Block]	Inventories			
Ħ	15	Inventories Subclassifications	Unknown	Level3TextBlock/Level4Detail	RollUp	True	CONSISTENT	True	Inventories Subclassifications [Text Block]	Inventories			
Ð	16	Liabilities and Equity Roll Up	Unknown	Level4Detail	RollUp	True	CONSISTENT	True	NOT-EXPECTED	Liabilities and Equity			
Ð	17	Long-Term Debt Maturities	Unknown	Level3TextBlock/Level4Detail	RollUp	True	CONSISTENT	True	Long-term Debt Maturities [Text Block]	Long-term Debt			
Ħ	18	Long-Term Debt Roll Forward	Unknown	Level3TextBlock/Level4Detail	RollForward	True	CONSISTENT	True	Long-term Debt Roll Forward [Text Block]	Long-term Debt			
Ħ	19	Long-Term Debt Subclassifications	Unknown	Level3TextBlock/Level4Detail	RollUp	True	CONSISTENT	True	Long-term Debt Subclassifications [Text Block]	Long-term Debt			
Ð	20	Nature of Entity	Unknown	Level 1TextBlock	TextBlock	True	CONSISTENT	True	Nature of Business [Text Block]	NOT-EXPECTED			
Ξ	21	Net Cash Flow Roll Up	Unknown	Level4Detail	RollUp	True	CONSISTENT	True	NOT-EXPECTED	Net Cash Flow			
Ħ	22	Property, Plant, and Equipment, Net Roll Forward	Unknown	Level3TextBlock/Level4Detail	RollForward	True	CONSISTENT	True	Property, Plant, and Equipment Roll Forward [Text Block]	Property, Plant and Equipment			
Ð	23	Property, Plant, and Equipment, Net Subclassifications	Unknown	Level3TextBlock/Level4Detail	RollUp	True	CONSISTENT	True	Property, Plant, and Equipment Subclassifications [Text Block]	Property, Plant and Equipment			
Ð	24	Receivables Roll Forward	Unknown	Level3TextBlock/Level4Detail	RollForward	True	CONSISTENT	True	Receivables Roll Forward [Text Block]	Receivables			
Ħ	25	Receivables Subclassifications	Unknown	Level3TextBlock/Level4Detail	RollUp	True	CONSISTENT	True	Receivables Subclassifications [Text Block]	Receivables			
Ð	26	Retained Earnings Roll Forward	Unknown	Level4Detail	RollForward	True	CONSISTENT	True	NOT-EXPECTED	Retained Earnings			
ŧ	27	Significant Accounting Policies	Unknown	Level 1TextBlock	TextBlock	True	CONSISTENT	True	Significant Accounting Policies [Text Block]	NOT-EXPECTED			
Ħ	28	Statement of Changes in Equity	Unknown	Level4Detail	RollForward	True	CONSISTENT	True	NOT-EXPECTED	Equity			
Ħ	29	Transactions Groupings	Unknown	Level4Detail	RollUp	True	CONSISTENT	True	NOT-EXPECTED	Check Sum Changes			
ŧ	30	Trial Balance	Unknown	Level4Detail	RollUp	True	CONSISTENT	True	NOT-EXPECTED	Check Sum			

Reporting Checklist:

#		Disclosure	Checklist Category	Reason Disclosure Must Exist	Discovered	Expectation Met	Link to Disclosure Mechanics	
~ O		Reporting Checklist						*
	1	Document Information	Required disclosure	Disclosure always required	True	CONSISTENT	Document Information	
	2	Inventories Subclassifications	Possible disclosure	Disclosure is present	True	CONSISTENT	Inventories Subclassifications	
	3	Inventories Roll Forward	Possible disclosure	Disclosure is present	True	CONSISTENT	Inventories Roll Forward	
	4	Transactions Groupings	Possible disclosure	Disclosure is present	True	CONSISTENT	Transactions Groupings	
	5	Trial Balance	Possible disclosure	Disclosure is present	True	CONSISTENT	Trial Balance	
	6	Entity Information	Required disclosure	Disclosure always required	True	CONSISTENT	Entity Information	
- v	 7 Balance Sheet, Classified 		Required disclosure	Disclosure always required, satisfied by Assets Roll Up and Liabilities and Equity	True	CONSISTENT	Balance Sheet, Classified	
	8	Assets Roll Up	Part of disclosure	Satisfies Balance Sheet, Classified disclosure	Sheet, Classified disclosure True CONSISTENT Asset		Assets Roll Up	
	9	Liabilities and Equity Roll Up	Part of disclosure	Satisfies Balance Sheet, Classified disclosure	True	CONSISTENT	Liabilities and Equity Roll Up	
	10	Income Statement	Required disclosure	Disclosure always required	True	CONSISTENT	Income Statement	
- v	11	Cash Flow Statement, Direct Method	Required disclosure	Disclosure always required, satisfied by Net Cash Flow Roll Up and Cash and Ca	True	CONSISTENT	Cash Flow Statement, Direct Method	
	12	Net Cash Flow Roll Up	Part of disclosure	Satisfies Cash Flow Statement, Direct Method disclosure	True	CONSISTENT	Net Cash Flow Roll Up	
	13	Cash and Cash Equivalents Summary Roll Forward	Part of disclosure	Satisfies Cash Flow Statement, Direct Method disclosure	True	CONSISTENT	Cash and Cash Equivalents Summary Roll Forward	
	14	Statement of Changes in Equity	Required disclosure	Disclosure always required	True	CONSISTENT	Statement of Changes in Equity	
	15	Basis of Presentation	Required disclosure	Disclosure always required	True	CONSISTENT	Basis of Presentation	Ξ
	16	Nature of Entity	Required disclosure	Disclosure always required	True	CONSISTENT	Nature of Entity	
	17	Significant Accounting Policies	Required disclosure	Disclosure always required	True	CONSISTENT	Significant Accounting Policies	
	18	Cash and Cash Equivalents Roll Forward	Line item exists, then disclosure required	Required because line item mini:CashAndCashEquivalents was reported	True	CONSISTENT	Cash and Cash Equivalents Roll Forward	
	19	Cash and Cash Equivalents Subclassifications	Line item exists, then disclosure required	Required because line item mini:CashAndCashEquivalents was reported	True	CONSISTENT	Cash and Cash Equivalents Subclassifications	
	20	Receivables Roll Forward	Line item exists, then disclosure required	Required because line item mini:Receivables was reported	True	CONSISTENT	Receivables Roll Forward	
	21	Receivables Subclassifications	Line item exists, then disclosure required	Required because line item mini:Receivables was reported	True	CONSISTENT	Receivables Subclassifications	
	22	Inventories Roll Forward	Line item exists, then disclosure required	Required because line item mini:Inventories was reported	True	CONSISTENT	Inventories Roll Forward	
	23	Inventories Subclassifications	Line item exists, then disclosure required	Required because line item mini:Inventories was reported	True	CONSISTENT	Inventories Subclassifications	
	24	Property, Plant, and Equipment, Net Roll Forward	Line item exists, then disclosure required	Required because line item mini:PropertyPlantAndEquipment was reported	True	CONSISTENT	Property, Plant, and Equipment, Net Roll Forward	
	25	Property, Plant, and Equipment, Net Subclassifications	Line item exists, then disclosure required	Required because line item mini:PropertyPlantAndEquipment was reported	True	CONSISTENT	Property, Plant, and Equipment, Net Subclassifications	
	26	Accounts Payable Roll Forward	Line item exists, then disclosure required	Required because line item mini:AccountsPayable was reported	True	CONSISTENT	Accounts Payable Roll Forward	
	27	Accounts Payable Subclassifications	Line item exists, then disclosure required	Required because line item mini: AccountsPayable was reported	True	CONSISTENT	Accounts Payable Subclassifications	
	28	Retained Earnings Roll Forward	Line item exists, then disclosure required	Required because line item mini:RetainedEarnings was reported	True	CONSISTENT	Retained Earnings Roll Forward	
	29	Long-Term Debt Subclassifications	Line item exists, then disclosure required	Required because line item mini:LongtermDebt was reported	True	CONSISTENT	Long-Term Debt Subclassifications	
	30	Long-Term Debt Roll Forward	Line item exists, then disclosure required	Required because line item mini:LongtermDebt was reported	True	CONSISTENT	Long-Term Debt Roll Forward	
	31	Long-Term Debt Maturities	Line item exists, then disclosure required	Required because line item mini:LongtermDebt was reported	True	CONSISTENT	Long-Term Debt Maturities	-
4		1	1					

Again, the volume of information blocks and disclosures continues to increase, but the logical model of the information still follows identifiable patterns and it is possible to verify that the report is properly functioning, completely described, consistent with expectations, and precise.

Microsoft 10-K (Recast version)

The volume now increases to the size of a real financial report. The Microsoft 2017 10-K, which I have analyzed extensively⁴⁶, was modified to add a complete set of rules that describes the report similar to how all the prior sample reports were completely described.

Components (128)	Rendering	Model Structure	Fact Table	Business Rules Structure	e Business Rules Validation R	esults Elements	
O Network View	Component: (Network	vork and Table) 100000 - Document	-Document and Entit	y Information			
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100000 - Document - Document and Entity Information Statement	<u> </u>				Period [Axis] 👻		
100010 - Statement - INCOME STATEMENTS Statement [Table]	Statement [Line Ite	ms]	Unit	Axis] 👻	2017-07-31	2016-07-01/2017-06-30	2016-12-31
100020 - Statement - COMPREHENSIVE INCOME STATEMENTS Statement [Table]	Document Type					10-К	
100030 - Statement - COMPREHENSIVE INCOME STATEMENTS	Amendment Flag					false	
(Parenthetical) Statement [Table]	Document Period Er	d Date				2017-06-30	
100040 - Statement - BALANCE SHEETS Statement [Table]	Document Fiscal Ye	ar Focus				2017	
⊡ 100050 - Statement - BALANCE SHEETS (Parenthetical) ◆ Statement	Document Fiscal Pe	iod Focus				FY	
100060 - Statement - CASH FLOWS STATEMENTS Statement [Table]	Trading Symbol					MSFT	
I00070 - Statement - STOCKHOLDERS' EQUITY STATEMENTS ◆ Statement [Table]	Entity Registrant Na	me				MICROSOFT CORPORATION	
I00080 - Disclosure - ACCOUNTING POLICIES ◆ Statement [Table]	Entity Central Index	Key				0000789019	
100090 - Disclosure - EARNINGS PER SHARE Statement [Table]	Current Fiscal Year	End Date				06-30	
100100 - Disclosure - OTHER INCOME (EXPENSE), NET ♦ Statement	Entity Well-known S	easoned Issuer				Yes	
 100110 - Disclosure - INVESTMENTS Statement [Table] 	Entity Current Repo	ting Status				Yes	
IO0120 - Disclosure - DERIVATIVES ◆ Statement [Table]	Entity Voluntary File	rs				No	
100130 - Disclosure - FAIR VALUE MEASUREMENTS Statement [Table]	Entity Filer Category					Large Accelerated Filer	
100140 - Disclosure - INVENTORIES Statement [Table]	Entity Common Stor	k, Par Value Per Share	USD/:	hares / shares		0	
⊡ 100150 - Disclosure - PROPERTY AND EQUIPMENT ◆ Statement [Table]	Entity Common Stor	k, Shares Outstanding	share	\$	7,702,243,979		
100160 - Disclosure - BUSINESS COMBINATIONS Statement [Table]	Entity Public Float		USD				466,500,000,000
⊞ 100170 - Disclosure - GOODWILL ♦ Statement [Table]	I.R.S. Employer Ide	tification No.				911144442	
100180 - Disclosure - INTANGIBLE ASSETS Statement [Table]							
⊞ 100190 - Disclosure - DEBT ◆ Statement [Table]							
I00200 - Disclosure - INCOME TAXES ◆ Statement [Table]							
⊡ 100210 - Disclosure - RESTRUCTURING CHARGES ◆ Statement [Table]							
I00220 - Disclosure - UNEARNED REVENUE ◆ Statement [Table]							
100230 - Disclosure - COMMITMENTS Statement [Table]							
I00240 - Disclosure - CONTINGENCIES ◆ Statement [Table]							

The Microsoft reports has 194 information blocks, 124 disclosures, 2035 facts, 128 Networks.

Information Blocks:

⁴⁶ Microsoft XBRL-based Report Analysis, <u>http://xbrl.squarespace.com/journal/2020/4/13/microsoft-xbrl-based-report-analysis.html</u>

Network View Component View Block View Filter Type Filter Level Filter Status Enter text to filter Clear BlockN1C1B1 [Hierarchy] Clear BlockN2C1B4 [Hierarchy] Clear BlockN2C1B4 [Hierarchy] Filter Status BlockN2C1B4 [Hierarchy] Filter Status BlockN2C1B4 [Hierarchy] Filter Status Weighted average shares outstanding: [Hierarchy] Filter Status Comprehensive Income Net Of Tax [Roll Up] BlockN4C1B1 [Hierarchy] Assets [Roll Up] Stasts [Roll Up] BlockN2C1B1 [Hierarchy] Cash And Cash Equivalents At Carrying Value [Roll Forward] Cash And Cash Equivalents At Carrying Value [Roll Forward] Cash And Cash Equivalents Period Increase Decrease [Roll Up] Stockholders Equity [Roll Forward] ACCOUNTING POLICIES [Text Block] (Level 4 Detail) OTHER INCOME (EXPENSE), NET [Text Block] (Level 4 Detail) INVESTMENTS [Text Block] (Level 4 Detail) INVESTMENTS [Text Block] (Level 4 Detail) EARININGS FER SHARE [Text Block] (Level 4 Detail) INVESTMENTS [Text Block] (Level 4 Detail) EARININGS FER SHARE [Text Block] (Level 4 Detail) INVESTMENTS [Text Block] (Level 4 Detail) EARININGS FER SHARE [Text Block] (Level 4 Detail)	Blocks (194)
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BlockN2C1B4 [Hierarchy] Earnings per share: [Hierarchy] Weighted average shares outstanding: [Hierarchy] Comprehensive Income Net Of Tax [Roll Up] BlockN4C1B1 [Hierarchy] Assets [Roll Up] Liabilities and stockholders" equity [Roll Up] BlockN6C1B1 [Hierarchy] Cash And Cash Equivalents At Carrying Value [Roll Forward] Cash And Cash Equivalents Period Increase Decrease [Roll Up] Stockholders Equity [Roll Forward] ACCOUNTING POLICIES [Text Block] (Level 4 Detail) EARNINGS PER SHARE [Text Block] (Level 4 Detail) OTHER INCOME (EXPENSE), NET [Text Block] (Level 4 Detail) INVESTMENTS [Text Block] (Level 4 Detail) PRIVATIVES [Text Block] (Level 4 Detail) INVENTORIES [Text Block] (Level 4 Detail) INVENTORIES [Text Block] (Level 4 Detail) PROPERTY AND EQUIPMENT [Text Block] (Level 4 Detail) BUSINESS COMBINATIONS [Text Block] (Level 4 Detail) BUSINESS COMBINATIONS [Text Block] (Level 4 Detail) GOODWILL [Text Block] (Level 4 Detail)	Net Income Loss [Roll Up]
Earnings per share: [Hierarchy] Weighted average shares outstanding: [Hierarchy] Comprehensive Income Net Of Tax [Roll Up] BlockN4C1B1 [Hierarchy] Assets [Roll Up] Liabilities and stockholders" equity [Roll Up] BlockN6C1B1 [Hierarchy] Cash And Cash Equivalents At Carrying Value [Roll Forward] Cash And Cash Equivalents Period Increase Decrease [Roll Up] Stockholders Equity [Roll Forward] ACCOUNTING POLICIES [Text Block] (Level 4 Detail) EARNINGS PER SHARE [Text Block] (Level 4 Detail) OTHER INCOME (EXPENSE), NET [Text Block] (Level 4 Detail) INVESTMENTS [Text Block] (Level 4 Detail) DERIVATIVES [Text Block] (Level 4 Detail) FAIR VALUE MEASUREMENTS [Text Block] (Level 4 Detail) INVENTORIES [Text Block] (Level 4 Detail) PROPERTY AND EQUIPMENT [Text Block] (Level 4 Detail) BUSINESS COMBINATIONS [Text Block] (Level 4 Detail) GOODWILL [Text Block] (Level 4 Detail)	BlockN2C1B4 [Hierarchy]
Weighted average shares outstanding: [Hierarchy] Comprehensive Income Net Of Tax [Roll Up] BlockN4C1B1 [Hierarchy] Assets [Roll Up] Liabilities and stockholders" equity [Roll Up] BlockN6C1B1 [Hierarchy] Cash And Cash Equivalents At Carrying Value [Roll Forward] Cash And Cash Equivalents Period Increase Decrease [Roll Up] Stockholders Equity [Roll Forward] ACCOUNTING POLICIES [Text Block] (Level 4 Detail) EARNINGS PER SHARE [Text Block] (Level 4 Detail) OTHER INCOME (EXPENSE), NET [Text Block] (Level 4 Detail) INVESTMENTS [Text Block] (Level 4 Detail) DERIVATIVES [Text Block] (Level 4 Detail) FAIR VALUE MEASUREMENTS [Text Block] (Level 4 Detail) INVENTORIES [Text Block] (Level 4 Detail) BUSINESS COMBINATIONS [Text Block] (Level 4 Detail) GOODWILL [Text Block] (Level 4 Detail)	Earnings per share: [Hierarchy]
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	GOODWILL [Text Block] (Level 4 Detail)
INTANGIBLE ASSETS [Text Block] (Level 4 Detail)	INTANGIBLE ASSETS [Text Block] (Level 4 Detail)

Disclosure Mechanics⁴⁷:

Primary In	nformation									
#	Disclosure	Category	Level	Pattern	Disclosure Found	Disclosure Consist	Applicable	Representation Concept [TEXT BLOCK]	Representation Concept DETAIL	
Ð	1 Accelerated Share Repurchases [Hierarchy]	Disdosure	Level4Detail	Hierarchy	True	CONSISTENT	True	NOT-EXPECTED	Stock Repurchase Program Authorized Amount 1	
Ð	2 Accumulated Other Comprehensive Income (Loss), by Equity Co	Disclosure	Level3TextBlock/Level4Detail	RolForward	True	CONSISTENT	True	Schedule Of Accumulated Other Comprehensive I	Stockholders Equity	
Đ	3 Assets [Roll Up]	Statement	Level4Detail	RollUp	True	CONSISTENT	True	NOT-EXPECTED	Assets	
Ξ	4 Assumptions Used in Estimating Fair Value of Stock Award Grant	Disclosure	Level4Detail	Hierarchy	True	CONSISTENT	True	NOT-EXPECTED	Share Based Compensation Arrangement By Sha	
Ξ	5 Balance Sheet	Statement	Level4Detail	Component	True	CONSISTENT	True	-	-	Ξ
Ξ	6 Balance Sheet, Parenthetical, by Legal Entity [Hierarchy]	Statement	Level4Detail	Hierarchy	True	CONSISTENT	True	NOT-EXPECTED	Allowance For Doubtful Accounts Receivable Cur	
Ħ	7 Basis of Reporting Note [Note Level]	Disclosure	Level 1TextBlock	TextBlock	True	CONSISTENT	True	Basis Of Accounting Policy Policy [Text Block]	NOT-EXPECTED	
Ð	8 Business Acquisition, Pro Forma Information [Hierarchy]	Disclosure	Level3TextBlock/Level4Detail	Hierarchy	True	CONSISTENT	True	Business Acquisition Pro Forma Information [Text	Business Acquisitions Pro Forma Revenue	
Ð	9 Business Acquisitions, by Acquisition (Roll Up)	Disclosure	Level3TextBlock/Level4Detail	RollUp	True	CONSISTENT	True	Schedule Of Business Acquisitions By Acquisition [Business Combination Recognized Identifiable As	
E :	10 Cash and Cash Equivalents Summary [Roll Forward]	Statement	Level4Detail	RollForward	True	CONSISTENT	True	NOT-EXPECTED	Cash And Cash Equivalents At Carrying Value	
H :	11 Cash Flow Statement [Roll Forward]	Statement	Level4Detail	RollUp	True	CONSISTENT	True	NOT-EXPECTED	Cash And Cash Equivalents Period Increase Decr	
H :	12 Commitments Note [Note Level]	Disclosure	Level 1TextBlock	TextBlock	True	CONSISTENT	True	Commitments Disclosure [Text Block]	NOT-EXPECTED	
± :	13 Common Stock Outstanding [Roll Forward]	Disclosure	Level3TextBlock/Level4Detail	RollForward	True	CONSISTENT	True	Schedule Of Common Stock Outstanding Roll For	Common Stock Shares Outstanding	
Ð :	14 Compensation and Employee Benefit Plans Note [Note Level]	Disclosure	Level 1TextBlock	TextBlock	True	CONSISTENT	True	Compensation And Employee Benefit Plans [Text	NOT-EXPECTED	
Ð :	15 Compensation Cost for Share-based Payment Arrangements, Al	Disclosure	Level3TextBlock/Level4Detail	Hierarchy	True	CONSISTENT	True	Schedule Of Compensation Cost For Share Based	Allocated Share Based Compensation Expense	
H :	16 Comprehensive Income (Loss) Note [Note Level]	Disclosure	Level 1TextBlock	TextBlock	True	CONSISTENT	True	Comprehensive Income Note [Text Block]	NOT-EXPECTED	
H :	17 Contingencies Note [Note Level]	Disclosure	Level 1TextBlock	TextBlock	True	CONSISTENT	True	Legal Matters And Contingencies [Text Block]	NOT-EXPECTED	
H :	18 Corporate and Other Operating Income (Loss) Activity [Hierarchy]	Disclosure	Level3TextBlock/Level4Detail	Hierarchy	True	CONSISTENT	True	Reconciliation Of Operating Profit Loss From Seg	Operating Income Loss	
H :	19 Cost of Sales Policy [Policy Text Block]	Disclosure	Level2TextBlock	TextBlock	True	CONSISTENT	True	Cost Of Sales Policy [Text Block]	NOT-EXPECTED	
Ð 3	20 Debt Note [Note Level]	Disclosure	Level 1TextBlock	TextBlock	True	CONSISTENT	True	Debt Disclosure [Text Block]	NOT-EXPECTED	
H 3	21 Deferred Revenue By Segment [Hierarchy]	Disclosure	Level4Detail	Hierarchy	True	CONSISTENT	True	NOT-EXPECTED	Deferred Revenue	
⊞ 3	22 Deferred Revenue Note [Note Level]	Disclosure	Level 1TextBlock	TextBlock	True	CONSISTENT	True	Deferred Revenue Disclosure [Text Block]	NOT-EXPECTED	
⊞ 3	23 Deferred Tax Assets and Liabilities [Roll Up]	Disclosure	Level3TextBlock/Level4Detail	RollUp	True	CONSISTENT	True	Schedule Of Deferred Tax Assets And Liabilities T	Deferred Tax Assets Liabilities Net	
⊞ :	24 Derivative Instruments in Statement of Financial Position Fair Val	Disclosure	Level3TextBlock/Level4Detail	RolUp	True	INCONSISTENT	True	Schedule Of Derivative Instruments In Statement	NOT-FOUND	
⊞ :	25 Derivative Instruments in Statement of Financial Position Fair Val	Disdosure	Level3TextBlock/Level4Detail	Hierarchy	True	INCONSISTENT	True	Schedule Of Derivative Instruments In Statement	NOT-FOUND	
•	26 Derivative Note [Note Level]	Disclosure	Level 1TextBlock	TextBlock	True	CONSISTENT	True	Derivative Instruments And Hedging Activities Dis	NOT-EXPECTED	
⊞ 3	27 Derivatives Policy [Policy Text Block]	Disclosure	Level2TextBlock	TextBlock	True	CONSISTENT	True	Derivatives Policy [Text Block]	NOT-EXPECTED	
⊞ :	28 Dividends Declared [Hierarchy]	Disclosure	Level3TextBlock/Level4Detail	Hierarchy	True	CONSISTENT	True	Dividends Declared Table [Text Block]	Dividends Payable Date Of Record Day Month A	
⊞ :	29 Dividends Declared Summary [Hierarchy]	Statement	Level4Detail	Hierarchy	True D	CONSISTENT	True	NOT-EXPECTED	Common Stock Dividends Per Share Declared	
haven	mount in the first		Marter martine	and the second	Server Contraction of the server of the serv	m VE.	/ Ve.	m. A	mon	~

Reporting Checklist⁴⁸:

 ⁴⁷ Disclosures, a complete list, <u>http://xbrlsite.azurewebsites.net/2020/Prototype/Microsoft/Microsoft2017</u> Discovery.jpg
 ⁴⁸ Full Microsoft reporting checklist, <u>http://xbrlsite.azurewebsites.net/2020/master/msft/testing/ReportingChecklist.jpg</u>

-	Departing Charklet	Checkist Category	Reason Discussile Must Exist	Discovered	capeciationmet	LINK TO DISCOSCILE MECHANICS
1	Document and Entity Information (Hierarchy)	Required disclosure	Disdosure always required	True	CONSISTENT	Document and Entity Information (Hierarchy)
2	Income Statement, by Legal Entity [Roll Up]	Required disclosure	Disclosure always required	True	CONSISTENT	Income Statement, by Legal Entity [Roll Up]
3	Earnings Per Share Summary [Herarchy]	Possible disclosure	Disdosure is present	True	CONSISTENT	Earnings Per Share Summary [Hierarchy]
4	Weighted Average Shares Summary, Basic and Diluted [Hi	Possible disclosure	Disdosure is present	True	CONSISTENT	Weighted Average Shares Summary, Basic and Diluted [Hi
5	Dividends Declared Summary [Hierarchy]	Possible disclosure	Disclosure is present	True	CONSISTENT	Dividends Declared Summary [Hierarchy]
6	Income Statement, Parenthetical, by Legal Entity [Hierarc	Possible disclosure	Disclosure is NOT present	False	N/A	Income Statement, Parenthetical, by Legal Entity [Herarc
7	Statement of Comprehensive Income [Roll Up]	Required disclosure	Disclosure always required	True	CONSISTENT	Statement of Comprehensive Income [Roll Up]
8	Statement of Comprehensive Income Parenthetical [Hierar	Possible disclosure	Disdosure is present	True	CONSISTENT	Statement of Comprehensive Income Parenthetical [Hierar
× 9	Balance Sheet	Required disclosure	Disclosure always required, satisfied by Assets [Roll Up] and Liabilities and Equi	True	CONSISTENT	Balance Sheet
	10 Assets [Roll Up]	Part of disclosure	Satisfies Balance Sheet disclosure	True	CONSISTENT	Assets [Roll Up]
12	Balance Chest, Paranthetical, by Lenal Entity Disearchyl	Part of disclosure	Disclosure in present	True	CONSISTENT	Balance Sheet, Parenthatical, by Lenal Entity Disearchy]
13	Cash Flow Statement (Roll Forward)	Pea ired disclosure	Disclosure always required	True	CONSISTENT	Cash Elow Statement [Poll Forward]
14	Cash and Cash Equivalents Summary [Roll Forward]	Possible disclosure	Disclosure is present	True	CONSISTENT	Cash and Cash Equivalents Summary [Roll Forward]
15	Statement of Changes in Equity [Roll Forward]	Required disclosure	Disclosure always required	True	CONSISTENT	Statement of Changes in Equity [Roll Forward]
16	Significant Accounting Policies Note [Note Level]	Required disclosure	Disclosure always required	True	CONSISTENT	Significant Accounting Policies Note [Note Level]
17	Earnings Per Share Note [Note Level]	Possible disclosure	Disdosure is present	True	CONSISTENT	Earnings Per Share Note [Note Level]
18	Other Nonoperating Income and Expense Note [Note Level]	Possible disclosure	Disdosure is present	True	CONSISTENT	Other Nonoperating Income and Expense Note [Note Level]
19	Investments in Debt and Equity Instruments, Cash And C	Possible disclosure	Disdosure is present	True	CONSISTENT	Investments in Debt and Equity Instruments, Cash And C
20	Derivative Note [Note Level]	Possible disclosure	Disdosure is present	True	CONSISTENT	Derivative Note [Note Level]
21	Fair Value Measurements Note [Note Level]	Possible disclosure	Disclosure is present	True	CONSISTENT	Fair Value Measurements Note (Note Level)
22	Inventory Note [Note Level]	Possible disclosure	Disclosure is present	True	CONSISTENT	Inventory Note [Note Level]
23	Property, Plant and Equipment Note [Note Level]	Possible disclosure	Disdosure is present	True	CONSISTENT	Property, Plant and Equipment Note [Note Level]
24	Candrel Note Diate Level	Possible disclosure	Disclosure is present	True	CONSISTENT	Conduit Note Dista Lovel
25	Intercible Arret: Note Diste Level	Possible disclosure	Disclosure is present	True	CONSISTENT	Interactive Prote Devel
27	Debt Note [Note Level]	Possible disclosure	Disclosure is present	True	CONSISTENT	Debt Note (Note Level)
28	Income Tax Note [Note Level]	Possible disclosure	Disclosure is present	True	CONSISTENT	Income Tax Note [Note Level]
29	Restructuring and Related Activities Note [Note Level]	Possible disclosure	Disdosure is present	True	CONSISTENT	Restructuring and Related Activities Note [Note Level]
30	Deferred Revenue Note [Note Level]	Possible disclosure	Disclosure is present	True	CONSISTENT	Deferred Revenue Note [Note Level]
31	Commitments Note [Note Level]	Possible disclosure	Disclosure is present	True	CONSISTENT	Commitments Note [Note Level]
32	Contingencies Note [Note Level]	Possible disclosure	Disdosure is present	True	CONSISTENT	Contingencies Note [Note Level]
33	Stockholders Equity Note [Note Level]	Possible disclosure	Disdosure is present	True	CONSISTENT	Stockholders Equity Note [Note Level]
34	Comprehensive Income (Loss) Note [Note Level]	Possible disclosure	Disdosure is present	True	CONSISTENT	Comprehensive Income (Loss) Note [Note Leve]
35	Employee Stock Ownership Plan (ESOP) Note [Note Level]	Possible disclosure	Disdosure is present	True	CONSISTENT	Employee Stock Ownership Plan (ESOP) Note [Note Level]
36	Segment Reporting Note [Note Level]	Possible disclosure	Disclosure is present	True	CONSISTENT	Segment Reporting Note [Note Level]
37	Nature of Operations Note (Note Level)	Perguine usualure	Dischourse always required	True	CONSISTENT	Nature of Operations Note [Note Level]
30	Basis of Reporting Note (Note Level)	Required disclosure	Disclosure always required	True	CONSISTENT	Basis of Renorting Note [Note evel]
40	Revenue Recognition Policy (Policy Text Block)	Required disclosure	Disclosure always required	True	CONSISTENT	Revenue Recognition Policy (Policy Text Block)
41	Use of Estimates [Policy Text Block]	Possible disclosure	Disclosure is present	True	CONSISTENT	Use of Estimates [Policy Text Block]
42	Foreign Currency (Policy Text Block)	Possible disclosure	Disclosure is present	True	CONSISTENT	Foreign Currency (Policy Text Block)
43	Cost of Sales Policy [Policy Text Block]	Possible disclosure	Disdosure is present	True	CONSISTENT	Cost of Sales Policy [Policy Text Block]
44	Product Warranty [Policy Text Block]	Possible disclosure	Disclosure is present	True	CONSISTENT	Product Warranty [Policy Text Block]
45	Research, Development, and Computer Software (Policy T	Possible disclosure	Disclosure is present	True	CONSISTENT	Research, Development, and Computer Software (Policy T
46	Share-based Compensation, Options, and Incentive Plans	Possible disclosure	Disdosure is present	True	CONSISTENT	Share-based Compensation, Options, and Incentive Plans
47	Income Taxes Policy [Policy Text Block]	Possible disclosure	Disdosure is present	True	CONSISTENT	Income Taxes Policy [Policy Text Block]
48	Fair Value of Financial Instruments [Policy Text Block]	Possible disclosure	Disclosure is present	True	CONSISTENT	Fair Value of Financial Instruments [Policy Text Block]
49	Investments Policy [Policy Text Block]	Possible disclosure	Disdosure is present	True	CONSISTENT	Investments Policy [Policy Text Block]
50	Derivatives Policy [Policy Text Block]	Possible disclosure	Disdosure is present	True	CONSISTENT	Derivatives Policy [Policy Text Block]
51	Trade and Other Accounts Receivable Policy [Policy Text B	Possible disclosure	Disclosure is present	True	CONSISTENT	Trade and Other Accounts Receivable Policy [Policy Text B
52	Property Policy (Policy Text Block) Property Plant and Environment Policy (Policy Text Block)	Possible disclosure	Disclosure is present	True	CONSISTENT	Inventory Policy (Policy Text Block)
54	Goodwill (Policy Text Block)	Possible disclosure	Disclosure is present	True	CONSISTENT	Goodwill (Policy Text Block)
55	Finite-lived Intangible Assets (Policy Text Block)	Possible disclosure	Disdosure is present	True	CONSISTENT	Finite-lived Intangble Assets (Policy Text Block)
56	New Accounting Pronouncements Policy [Policy Text Block]	Possible disclosure	Disdosure is present	True	CONSISTENT	New Accounting Pronouncements Policy [Policy Text Block]
57	Earnings Per Share Policy [Policy Text Block]	Possible disclosure	Disdosure is present	True	CONSISTENT	Earnings Per Share Policy [Policy Text Block]
58	Segment Reporting Policy [Policy Text Block]	Possible disclosure	Disdosure is present	True	CONSISTENT	Segment Reporting Policy [Policy Text Block]
59	Valuation Allowances And Reserves Balance [Roll Forward]	Possible disclosure	Disdosure is present	True	CONSISTENT	Valuation Allowances And Reserves Balance [Roll Forward]
60	New Accounting Pronouncement or Change in Accounting	Possible disclosure	Disdosure is present	True	CONSISTENT	New Accounting Pronouncement or Change in Accounting
61	New Accounting Pronouncement Effect on Balance Sheet [Possible disclosure	Disclosure is present	True	CONSISTENT	New Accounting Pronouncement Effect on Balance Sheet [
62	Net Income (Loss) Available to Common Shareholders [He	Possible disclosure	Disdosure is present	True	CONSISTENT	Net Income (Loss) Available to Common Shareholders [He
63	Weighted Average Number of Shares Outstanding, Dilute	Possible disclosure	Disdosure is present	True	CONSISTENT	Weighted Average Number of Shares Outstanding, Dilute
64	Earnings Per Share, Basic and Diluted [Herarchy]	Possible disclosure	Disclosure is present	True	CONSISTENT	Earnings Per Share, Basic and Diluted [Hierarchy]
60	Eisite land tetracible Assets Assets Assets of Purinees	Possible disclosure	Disclosure is present	True	CONSISTENT	Evite kind Tetreshie Assets Assets and the Date of Pusiess
67	Business Acquired as Part of business Business Acquired as Part of business	Possible disclosure	Disclosure is present	True	CONSISTENT	Pinte-rived Intangole Assets Acquired as Part of Business Business Acquired and Information Inference Information
68	Enite-lived Intancible Assets, Acquired, by Major Class IR	Possible disclosure	Disclosure is present	True	CONSISTENT	Enite-lived Intangible Assets, Acquired, by Mator Class (R
69	Long-term Debt Maturities [Roll Up]	Possible disclosure	Disclosure is present	True	CONSISTENT	Long-term Debt Maturities [Roll Up]
70	Deferred Revenue By Segment [Hierarchy]	Possible disclosure	Disdosure is present	True	CONSISTENT	Deferred Revenue By Segment [Hierarchy]
71	Common Stock Outstanding [Roll Forward]	Possible disclosure	Disclosure is present	True	CONSISTENT	Common Stock Outstanding [Roll Forward]
72	Accelerated Share Repurchases [Herarchy]	Possible disclosure	Disdosure is present	True	CONSISTENT	Accelerated Share Repurchases [Herarchy]
73	Dividends Declared [Hierarchy]	Possible disclosure	Disdosure is present	True	CONSISTENT	Dividends Declared [Hierarchy]
74	Compensation Cost for Share-based Payment Arrangeme	Possible disclosure	Disdosure is present	True	CONSISTENT	Compensation Cost for Share-based Payment Arrangeme
75	Assumptions Used in Estimating Fair Value of Stock Award	Possible disclosure	Disdosure is present	True	CONSISTENT	Assumptions Used in Estimating Fair Value of Stock Award
76	Share-based Compensation Arrangements Activity, by Aw	Possible disclosure	Disdosure is present	True	CONSISTENT	Share-based Compensation Arrangements Activity, by Aw
"	Share-based Compensation Arrangements Activity, by Aw	Possible disclosure	Disdosure is present	True	CONSISTENT	Share-based Compensation Arrangements Activity, by Aw
78	Recordiation of Revenue from Recorded to Constituted	Possible disclosure	Disclosure is present	True	CONSISTENT	Recordiation of Revenue from Someonte to Consuldant d
/3/ 80	Reconcliation of Operation Profit (Lore) from Samaeter to	Possible disclosure	Disdosure is present	True	CONSISTENT	Reconcilation of Operation Profit (Loss) from Segments to
81	Corporate and Other Operating Income (Loss) Activity [Hi	Possible disclosure	Disdosure is present	True	CONSISTENT	Corporate and Other Operating Income (Loss) Activity R4
82	Revenue from External Customers, by Products or Service	Possible disclosure	Disclosure is present	True	CONSISTENT	Revenue from External Customers, by Products or Service
83	Quarterly Financial Information [Hierarchy]	Possible disclosure	Disclosure is present	True	CONSISTENT	Quarterly Financial Information [Hierarchy]
84	Quarterly Financial Information, Parenthetical [Hierarchy]	Possible disclosure	Disclosure is present	True	CONSISTENT	Quarterly Financial Information, Parenthetical [Hierarchy]
85	Fair Value of Assets and Liabilities Measured on Recurring	Possible disclosure	Disdosure is present	True	CONSISTENT	Fair Value of Assets and Liabilities Measured on Recurring
86	Reconciliation of Assets Measured at Fair Value on Recurri	Possible disclosure	Disclosure is present	True	CONSISTENT	Reconcilation of Assets Measured at Fair Value on Recurri
87	Derivative Instruments in Statement of Financial Position F	Possible disclosure	Disclosure mechanics are INCONSISTENT therefore cannot determine if disclos	True	INCONSISTENT (M)	Derivative Instruments in Statement of Financial Position F
88	Derivative Instruments in Statement of Financial Position F	Possible disclosure	uscosure mechanics are INCONSISTENT therefore cannot determine if disclos	True	INCONSISTENT (M)	Derivative Instruments in Statement of Financial Position F
89	Garra (Losses) on Derivative Instruments [Roll Up]	Possible disclosure	Disclosure la present	True	CONSISTENT	Garia (Loses) on Derivative Instruments [Roll Up]
90	Resized Gam (Loss) on Investments [Koll Up] Investments Classified by Contractual Mahuity Data. Cont	Possible disclosure	Disclosure is present	True	CONSISTENT	Investments Classified by Contractual Maturity Data. Cont
92	Investments Classified by Contractual Maturity Date, Cost.	Possible disclosure	Disclosure is present	True	CONSISTENT	Investments Classified by Contractual Maturity Date, Cost
93	Inventory, Net (Current) [Roll Ub]	Line item exists, then disclosure recui	Required because line item base: Inventor/Net was reported	True	CONSISTENT	Inventory, Net (Current) [Roll Up]
v 94	Property, Plant and Equipment, Net, by Type [Roll Ub]	Line item exists, then disclosure requi	Required because line item base:PropertyPlantAndEquipmentNet was reported	True	CONSISTENT	Property, Plant and Equipment, Net, by Type [Roll Up]
1 1	95 Property, Plant and Equipment, Net, by Type (Roll Up) (A	Alternative representation	Not necessary, satisfied by Property, Plant and Equipment, Net, by Type [Roll	True	N/A	Property, Plant and Equipment, Net, by Type [Roll Up] (A
96	Finite-lived Intangible Assets, Net, by Major Class [Roll Up]	Line item exists, then disclosure requi	Required because line item base:FiniteLivedIntangbleAssetsNet was reported	True	CONSISTENT	Finite-lived Intangble Assets, Net, by Major Class [Roll Up]
97	Indefinite-lived Intangible Assets, by Major Class [Rol Up]	Line item exists, then disclosure requi	NOT required, because line item base: IndefiniteLivedIntangibleAssetsExcluding	False	N/A	Indefinite-lived Intangible Assets, by Major Class [Roll Up]
98	Goodwill [Roll Forward]	Line item exists, then disclosure requi	Required because line item base:Goodwill was reported	True	CONSISTENT	Goodwill [Roll Forward]
99	Finite-lived Intangible Assets, Future Amortization Expens	Possible disclosure	Disdosure is present	True	CONSISTENT	Finite-lived Intangible Assets, Future Amortization Expens
100	Deferred Tax Assets and Liabilities [Roll Up]	Line item exists, then disclosure requi	Required because line item base:DeferredTaxAssetsLiabilitiesNet was reported	True	CONSISTENT	Deterred Tax Assets and Liabilities [Roll Up]
101	Reconcilation of Statutory to Effective Income Tax Rate,	Line item exists, then disclosure requi	Required because line item base:IncomeTaxExpenseBenefit was reported	True	CONSISTENT	Reconcitation of Statutory to Effective Income Tax Rate,
102	Income Tax Expense (Benefit), Current and Deferred Det	une item exists, then disclosure requi	Required because line item base:IncomeTaxExpenseBenefit was reported	True	CONSISTENT	Income Tax Expense (Benefit), Current and Deferred Det
103	Resoucturing Reserve, by Type of Cost [Roll Forward]	Desible disclosure	Requireu pecause ine item pase:RestructuringReserve was reported	True	CONSISTENT	Resourced Tay Benefits Evolution Amount Dester
104	Income before Torome Tax, Domestic and Encirch 1911	I ine item exists, then diarlos as road	Required because line item base: Incomel net From Continuing Onerations Policies	True	CONSISTENT	Income before Income Tax, Domestic and Enceion (Del 114)
105	Restructuring Reserve [Roll Forward]	Possible disclosure	Disdosure is present	True	CONSISTENT	Restructuring Reserve [Roll Forward]
× 107	Restructuring Charges [Roll Up]	Possible disclosure	Disclosure is optional, satisfied by Restructuring Charges [Hierarchy] disclosure	False	N/A	Restructuring Charges [Roll Up]
	Restructuring Charges [Hierarchy]	Alternative representation	Altenative to possible disclosure Restructuring Charges [Roll Up]	True	CONSISTENT	Restructuring Charges [Hierarchy]
109	Compensation and Employee Benefit Plans Note [Note Level]	Possible disclosure	Disclosure is present	True	CONSISTENT	Compensation and Employee Benefit Plans Note [Note Level]
v 110	Long-term Debt Instruments, by Instrument [Hierarchy]	Possible disclosure	Disdosure is present	True	CONSISTENT	Long-term Debt Instruments, by Instrument [Herarchy]
	Long-term Debt Instruments, by Instrument [Roll Up]	Alternative representation	Not necessary, satisfied by Long-term Debt Instruments, by Instrument [Hera	True	N/A	Long-term Debt Instruments, by Instrument [Roll Up]
112	Future Minimum Payments, Present Value of Net Minimum	Possible disclosure	Disdosure is present	True	CONSISTENT	Future Minimum Payments, Present Value of Net Minimum
113	Future Minimum Payments Due under Operating Leases of	Possible disclosure	Disdosure is present	True	CONSISTENT	Future Minimum Payments Due under Operating Leases of
114	Leases of Lessee Note [Note Level]	Possible disclosure	Useosure is NOT present	False	N/A CONSISTENT	Leases or Lessee Note [Note Leve]
115	Accumulated other Comprehensive Income (Loss), by Equ.,	une nem exists, then disclosure requi	Neque do because internet tem base: Accumulated utner ComprehensiveIncomeLoss	True	CONSISTENT	Incomplete Other Comprehensive Income (Loss), by Equ.,
110	Revenue from External Customers Attributed to Paralas C	Possible disclosure	Disclosure is present	True	CONSISTENT	Revenue from External Customers Attributed to Foreign C
	Share-based Compensation, Restricted Stock Units Award	Possible disclosure	Disdosure is present	True	CONSISTENT	Share-based Compensation, Restricted Stock Units Award
118	and a second sec			True	CONSISTENT	Other Nononeration Income (Evnence) [Doll Lin]
118	Other Nonoperating Income (Expense) [Roll Up]	Possible disclosure	Disclosure is present			Concernational and an entry from opp
118 119 120	Other Nonoperating Income (Expense) (Roll Up) Revenues from External Customers, by Geographic Area [Possible disclosure Possible disclosure	Disdosure is present Disdosure is NOT present	False	N/A	Revenues from External Customers, by Geographic Area [

Step 7: Consolidate Understanding by Using this Method Yourself.

You can try this yourself using the Pacioli Power User Tool or Pesseract.

To use the Pacioli Power User Tool⁴⁹, which is cloud based so there is no software to install; simply run this script by cutting and pasting what you see below:

% Proof XBRL: Everything, Load Dynamically OK %

checkReport3("http://xbrlsite.azurewebsites.net/2021/reporting-scheme/proof/reference-implementation/instance.xml",

['http://accounting.auditchain.finance/reporting-scheme/proof/fac/ReportingStyles/PROOF-BSC-IS01-CF1_schema.xsd',

'http://accounting.auditchain.finance/reporting-scheme/proof/type-subtype/type-subtype.xsd', 'http://accounting.auditchain.finance/reporting-scheme/proof/disclosure-mechanics/disclosure-mechanics.xsd',

'http://accounting.auditchain.finance/reporting-scheme/proof/reporting-checklist/reporting-checklist-rules-def.xml',

'http://accounting.auditchain.finance/reporting-scheme/proof/model-structure/ModelStructure-rules-strict-def.xml'], [newRulesFormat, cacheValidity(0)], Result).

(Note that each of the files references a set of XBRL-based verification rules that are specified per this method.)

You will get a results page that looks something like this (this link will work until November 15, 2021).

The results page is not particularly well organized at this time, what you see is a debugging tool, not the GUI for accounting professionals, that is coming soon. Here is a summary of what you should look for on the results page:

First, **XBRL technical syntax verification** is run by default unless you specify NOT to run XBRL technical syntax validation. There are currently NO MESSAGES because everything checks out OK. (It would be my preference to explicitly SEE an informational message that states that XBRL technical syntax checks out.

Second, **report model structure verification** is run, click on the "Model Structure Validation" on the main form and you will see:

https://pacioli.auditchain.finance/reportAnalysis/1ac56aa0f195bebf5f67a71221929560905c7fe3.report /modelStructure.html

⁴⁹ Pacioli Power User Tool, <u>https://pacioli.auditchain.finance/tools/PowerUserTool.swinb</u>

Model Structure Validation

Child	Parent						
	Network	Hypercube (a.k.a. Table)	Dimension (a.k.a. Axis)	Member	Line Items (a.k.a. Primary Items)	Abstract	Concept
Network	0	0	0	0	0	0	0
Hypercube (a.k.a. Table)	20	0	0	0	0	0	0
Dimension (a.k.a. Axis)	0	4	0	0	0	0	0
Member	0	0	4	9	0	0	0
Line Items (a.k.a. Primary Items)	0	20	0	0	0	0	0
Abstract	0	0	0	0	22	7	0
Concept	0	0	0	0	3	93	0

Whether XBRL presentation relations are represented consistent with expectation; parent-child relations between report element categories are logical and consistent with what is permitted

Third, **type subtype associations validation** is run and you get results in a number of forms; but you can see from the GREEN bar to the RIGHT that there are no issues that have been discovered. If an issue was discovered, you would get a specific ERROR MESSAGE that shows up in the Messages list.



https://pacioli.auditchain.finance/reportAnalysis/1ac56aa0f195bebf5f67a71221929560905c7fe3.report /typeSubTypeGraph.html



Fourth, **fundamental accounting concept validation** is run and the results show up on the bottom of the main report form intermingled with the report structures (which is not optimal). See: (you can see that everything checks out because of the GREEN bars to the right; go to the "Structures" and "Facts" and "Pivots" for additional details)

ſΠ	2 Manual Manune	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	سم	~~~
15	FAC-001-General Information	Structures	Facts	Pivots
16	FAC-101-Balance Sheet, Classified	Structures	Facts	Pivots
17	FAC-201-Income Statement 1	Structures	Facts	Pivots
18	FAC-301-Comprehensive Income	Structures	Facts	Pivots
19	FAC-401-Cash Flow Statement	Structures	Facts	Pivots
20	FAC-701-Validation Results	Structures	Facts	Pivots
h.	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	`	\sim

Fifth, **disclosure mechanics verification** is run and the result show up if you click on the link "Disclosure mechanics rules" that you see at the bottom of the main page, but the actual results of running the rules is not necessarily apparent (Pesseract summarizes this information better)

https://pacioli.auditchain.finance/reportAnalysis/1ac56aa0f195bebf5f67a71221929560905c7fe3.report/disclosures.html



But, the green bar that you see on each item of the report shows that there are no issues that have been discovered should you some disclosure having been represented incorrectly.

	rmary Information											
Primary Information	n											
#	Disdosure	Category	Level	Pattern	Disclosure Found	Disclosure Consistent	Applicable	Representation Concept [TEXT BLOCK]	Representation Concept DETAIL			
±	1 Assets Roll Forward	Unknown	Level4Detail	RollForward	True	CONSISTENT	True	NOT-EXPECTED	Assets			
æ	2 Assets Roll Up	Unknown	Level4Detail	RollUp	True	CONSISTENT	True	NOT-EXPECTED	Assets			
±	3 Balance Sheet	Unknown	UNKNOWN	Component	True	CONSISTENT	True	-	-			
æ	4 Basis of Reporting	Unknown	Level 1TextBlock	TextBlock	True	CONSISTENT	True	Basis of Reporting [Text Block]	NOT-EXPECTED			
±	5 Cash Flow Statement	Unknown	UNKNOWN	Component	True	CONSISTENT	True	-	-			
æ	6 Changes in Equity	Unknown	Level4Detail	RollForward	True	CONSISTENT	True	NOT-EXPECTED	Equity			
±	7 Comprehensive Income	Unknown	Level4Detail	RollUp	True	CONSISTENT	True	NOT-EXPECTED	Comprehensive Income			
æ	8 Financial Highlights	Unknown	Level4Detail	Hierarchy	True	CONSISTENT	True	NOT-EXPECTED	Revenues			
	9 Income Statement	Unknown	Level4Detail	RollUp	True	CONSISTENT	True	NOT-EXPECTED	Net Income			
± :	0 Income Statement Alternative	Unknown	Level4Detail	RollUp	True	CONSISTENT	True	NOT-EXPECTED	Net Income			
æ :	11 Liabilities and Equity Roll Up	Unknown	Level4Detail	RollUp	True	CONSISTENT	True	NOT-EXPECTED	Liabilities and Equity			
± :	2 Nature of Operations	Unknown	Level 1TextBlock	TextBlock	True	CONSISTENT	True	Nature of Operations [Text Block]	NOT-EXPECTED			
± :	13 Net Assets Roll Up	Unknown	Level4Detail	RollUp	True	CONSISTENT	True	NOT-EXPECTED	Net Assets			
± :	14 Net Cash Flow Roll Up	Unknown	Level4Detail	RollUp	True	CONSISTENT	True	NOT-EXPECTED	Net Cash Flow			
± :	15 Prior Period Error	Unknown	Level4Detail	Adjustment	True	CONSISTENT	True	NOT-EXPECTED	Equity			
± :	6 Prior Period Error Alternative	Unknown	Level4Detail	Hierarchy	True	CONSISTENT	True	NOT-EXPECTED	Equity			
± :	7 Revenue Recognition Policy	Unknown	Level 1TextBlock	TextBlock	True	CONSISTENT	True	Revenue Recognition Policy [Text Block]	NOT-EXPECTED			
H :	8 Segment Revenues	Unknown	Level4Detail	Hierarchy	True	CONSISTENT	True	NOT-EXPECTED	Revenues			
± :	9 Stock Plan Activity	Unknown	Level4Detail	RollForwardInfo	True	CONSISTENT	True	NOT-EXPECTED	Nonvested Fair Value			
H 3	0 Variance Analysis	Unknown	Level4Detail	RollUp	True	CONSISTENT	True	NOT-EXPECTED	Net Income			

This is what Pesseract's summary looks like:

Sixth, **reporting checklist verification** is run and the results are summarized on the link "Reporting Checklist Rules" that you see at the bottom of the main page:

https://pacioli.auditchain.finance/reportAnalysis/1ac56aa0f195bebf5f67a71221929560905c7fe3.report /disclosureChecks.html

Ту	pe	Defined	Bound	Derived	ОК	Fail	1		
dis	closureCheck	20	20	0	20	0	D		
Re	Type Defined Bound Derived OK Fail disclosureCheck 20 20 0 20 0 t Type Name 1 disclosureCheck require [disclosures:AssetsRollForw • ok:1 • failed:0 • ok:1 • failed:0 2 disclosureCheck require [disclosures:AssetsRollUp] • ok:1 • failed:0 • ok:1 • failed:0 3 disclosureCheck require [disclosures:BalanceSheet] • ok:1 • failed:0 4 disclosureCheck require [disclosures:BasisOfReporti • ok:1 • failed:0								
#	Туре	Nam	ne						Rule Expression
1	disclosureCheck	requ	ire [disclo • ok:1 • failed:	osures:Ass 0	etsRo	llForv	wa	rd]	Require disclosure: • disclosures:AssetsRollForward 1 instance: See link above
2	disclosureCheck	requ	ire [disclo • ok:1 • failed:	osures:Ass 0	etsRo	llUp]			Require disclosure: • disclosures:AssetsRollUp 1 instance: See link above
3	disclosureCheck	requ	ire (discle • ok:1 • failed:	osures:Bala	anceS	heet]]		Require disclosure: • disclosures:BalanceSheet 1 instance: See link above
4	disclosureCheck	requ	ire (discle • ok:1 • failed:	osures:Bas	isOfRi	eport	tin	g]	Require disclosure: • disclosures:BasisOfReporting 1 instance: See link above
5	disclosureCheck	requ	ire [disck • ok:1 • failed:	osures:Cas	hFlow	State	em	ent]	Require disclosure: • disclosures:CashFlowStatement 1 instance: See link above

Again, the green bar that you see shows that no inconsistencies were discovered.

Again, the Pesseract interface lays the relevant information out better which you can see below:

#			Ŷ	Disclosure	Checklist Category	Reason Disclosure Must Exist	Discovered	Expectation Met	Link to Disclosure Mechanics
~	0			Reporting Checklist					
	~	1		Balance Sheet	Required disclosure	Disclosure always required, satisfied by Assets Roll Up and Liabilities and Equity	True	CONSISTENT	Balance Sheet
			2	Assets Roll Up	Part of disclosure	Satisfies Balance Sheet disclosure	True	CONSISTENT	Assets Roll Up
			3	Liabilities and Equity Roll Up	Part of disclosure	Satisfies Balance Sheet disclosure	True	CONSISTENT	Liabilities and Equity Roll Up
		4		Basis of Reporting	Required disclosure	Disclosure always required	True	CONSISTENT	Basis of Reporting
	~	5		Cash Flow Statement	Required disclosure	Disclosure always required, satisfied by Assets Roll Forward and Net Cash Flow	True	CONSISTENT	Cash Flow Statement
			6	Assets Roll Forward	Part of disclosure	Satisfies Cash Flow Statement disclosure	True	CONSISTENT	Assets Roll Forward
			7	Net Cash Flow Roll Up	Part of disclosure	Satisfies Cash Flow Statement disclosure	True	CONSISTENT	Net Cash Flow Roll Up
		8		Changes in Equity	Required disclosure	Disclosure always required	True	CONSISTENT	Changes in Equity
		9		Comprehensive Income	Required disclosure	Disclosure always required	True	CONSISTENT	Comprehensive Income
		10		Financial Highlights	Required disclosure	Disclosure always required	True	CONSISTENT	Financial Highlights
		Poisdosure Reporting Checklist Reporting Checklist Balance Sheet Z Assets Roll Up J Liabilities and Equity) Basis of Reporting Cash Flow Statemen Assets Roll Forward Resets Roll Forward Comprehensive Ino Comprehensive Ino Comprehensive Ino Financial Highlights Nature of Operatio Nature of Operatio Net Assets Roll Up Assets Roll Up Segment Revenue Stock Plan Activit Variance Analysis Uncome Statement	Income Statement Alternative	Required disclosure	Disclosure always required	True	CONSISTENT	Income Statement Alternative	
		12		Nature of Operations	Required disclosure	Disclosure always required	True	CONSISTENT	Nature of Operations
		13		Net Assets Roll Up	Required disclosure	Disclosure always required	True	CONSISTENT	Net Assets Roll Up
		14		Prior Period Error	Required disclosure	Disclosure always required	True	CONSISTENT	Prior Period Error
		15		Prior Period Error Alternative	Required disclosure	Disclosure always required	True	CONSISTENT	Prior Period Error Alternative
		16		Revenue Recognition Policy	Required disclosure	Disclosure always required	True	CONSISTENT	Revenue Recognition Policy
		17		Segment Revenues	Required disclosure	Disclosure always required	True	CONSISTENT	Segment Revenues
		18		Stock Plan Activity	Required disclosure	Disclosure always required	True	CONSISTENT	Stock Plan Activity
		19		Variance Analysis	Required disclosure	Disclosure always required	True	CONSISTENT	Variance Analysis
		20		Income Statement	Required disclosure	Disclosure always required	True	CONSISTENT	Income Statement

Seventh, the **manual review** (a.k.a. to do list) has to be done manually, but the information to do that review is provided in the verification result.

Here is the main form provided by Pacioli which you can use to review the entire financial report knowledge graph of information:

https://pacioli.auditchain.finance/reportAnalysis/1ac56aa0f195bebf5f67a71221929560905c7fe3.report /index.html

Table of Contents

		TERMS						
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		Type-subtype table						
		Model Structure Validation						
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2	02-Net Assets	Structures	Facts	Pivots				
3	03-Income Statement	Structures	Facts	Pivots				
4	04-Income Statement (Alternative)	Structures	Facts	Pivots				
5	05-Comprehensive Income	Structures	Facts	Pivots				
6	06-Cash Flow	Structures	Facts	Pivots				
7	07-Prior Period Errors	Structures	Facts	Pivots				
8	08-Prior Period Errors (Alternative)	Structures	Facts	Pivots				
9	09-Changes in Equity	Structures	Facts	Pivots				
10	10-Policies	Structures	Facts	Pivots				
11	11-Variance Analysis	Structures	Facts	Pivots				
12	12-Segment Revenues	Structures	Facts	Pivots				
13	13-Stock Plan Activity	Structures	Facts	Pivots				
14	14-Financial Highlights	Structures	Facts	Pivots				
15	FAC-001-General Information	Structures	Facts	Pivots				
16	FAC-101-Balance Sheet, Classified	Structures	Facts	Pivots				
17	FAC-201-Income Statement 1	Structures	Facts	Pivots				
18	FAC-301-Comprehensive Income	Structures	Facts	Pivots				
19	FAC-401-Cash Flow Statement	Structures	Facts	Pivots				
20	FAC-701-Validation Results	Structures	Facts	Pivots				
		Graph of re	asoning					
		Blocks						
		Blocks Graph						
		Derivation Rules						
		Calculations						
	All Rules	Value Assertions						
		Report Check	list Rules					
\vdash		Messages						

Messages

#	Туре	Stage	Message
1	info	loadLinkBase	repeated formula, ignoring CONSISTENCY_AccountingEquation in http://xbrlsite.azurewebsites.net/2021/reporting-scheme/proof/reference- implementation/report-Rule-Nonstandard-formula.xml, keeping valueAssertion already loaded from http://xbrlsite.azurewebsites.net/2021/reporting- scheme/proof/reference-implementation/report-Rule-Consistency-Code-BS01-formula.xml

Alternatively, if you use Pesseract⁵⁰ you will see these results: (you can download and install Pesseract and get these same results yourself).

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🥌 🗋 🗁 🗐	XBRL-based general					<u></u>	00	۲				
Get Started New Open Save		XBRL	 Syntax Disclosure Mechanics * 	Checklist -	To Do List ▼	Report Properties *	Reference Taxonomie	d Viewer				
File	Report Profile		Report Validation	n Status	5	Prop	erties	Application Mode				
Instance (instance_dr.xml) ×	Taxonomy (report.xsd)										-	>
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iges (0		Component: (Ne	work and Ta	ble)	_						
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			Reporting Entity [Axis]			GH2594	00TOMPUOLS65II http://	standards.iso.org/iso/17442		۴	rope
Enter text to filter	▼ Clea		Unit [Axis]				USD				٧	rties
01-Balance Sheet A Balance Sheet	heet (Hypercube)						Period [Avis] -				
01 balance sheet balance sh	ivpercube]		Balance Sheet [] is	a Itams]								
03-Income Statement Comp	rehensive Income Statement [Hypercube			ie itemoj	_			2020-12-31	2019-12-31			
04-Income Statement (Alternat	ive) Comprehensive Income Statemen	t	Assets [Roll Up]									
🖽 [Hypercube]	, , , , , , , , , , , , , , , , , , , ,		Current Assets					500	0			
⊕ 05-Comprehensive Income ◆ C	Comprehensive Income Statement [Hyper	cube]	Noncurrent Assets					3,000	0			
⊕ 06-Cash Flow ◆ Cash Flow [Hy	/percube]					Ass	ets	3,500 1	0 1			
07-Prior Period Errors Prior P	Period Errors [Hypercube]		Liabilities and E	quity [Roll U	p]							
1 08-Prior Period Errors (Alternation)	ive) Prior Period Errors [Hypercube]		Liabilities [Roll	Jp]								
09-Changes in Equity Changes	es in Equity [Hypercube]		Current Liabilities					0	0			
	be]		Noncurrent Liabilit	ies				0	0			
11-Variance Analysis Variance	e Analysis [Hypercube]				Liabilities		ties	0	0			
12-Segment Revenues Segment	nent Revenues [Hypercube]		Equity [Roll Up]									
	nted Average Grant Date Fair Value		Equity Attributable	To Controlling	Interests			3.000	0			
	cial Highlights [Hypercube]		Equity Attributable	to Noncontrol	ling Intere	sts		5,000	0			
Component Properties		~	4,		,	Εσι	uity	3 500	0			
▶ Network	01-Balance Sheet					abilities and Equ	uity	3,500	0			
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Disclosure	disclosures:BalanceSheet											
Confidence	MEDIUM											
Status	InProgress											
Collections		~										
Advanced		~										
Message List Console												

Disclosure mechanics:

Primary Informat	ion		Disclosure Found Disclosure Consistent Applicable Representation Concept [TEXT BLOCK] Representation Concept DETAIL own Level Overlation Roll Forward True CONSISTENT True NOT-EXPECTED Assets own Level Avel Avelation Roll Porvard True CONSISTENT True NOT-EXPECTED Assets own Level Avel Avel Avelation True CONSISTENT True - - own Level Avel Avelation Text Block True CONSISTENT True - - own Level Avelation Text Block True CONSISTENT True - - own Level Avelation True CONSISTENT True - - - own Level Avelation Roll Forward True CONSISTENT True - - - own Level Avelation Roll Forward True CONSISTENT True - - - - - - -						
#	Disdosure	Category	Level	Pattern	Disclosure Found	Disclosure Consistent	Applicable	Representation Concept [TEXT BLOCK]	Representation Concept DETAIL
±	1 Assets Roll Forward	Unknown	Level4Detail	RollForward	True	CONSISTENT	True	NOT-EXPECTED	Assets
æ	2 Assets Roll Up	Unknown	Level4Detail	RollUp	True	CONSISTENT	True	NOT-EXPECTED	Assets
±	3 Balance Sheet	Unknown	UNKNOWN	Component	True	CONSISTENT	True	-	-
۲	4 Basis of Reporting	Unknown	Level 1TextBlock	TextBlock	True	CONSISTENT	True	Basis of Reporting [Text Block]	NOT-EXPECTED
æ	5 Cash Flow Statement	Unknown	UNKNOWN	Component	True	CONSISTENT	True	-	-
æ	6 Changes in Equity	Unknown	Level4Detail	RollForward	True	CONSISTENT	True	NOT-EXPECTED	Equity
æ	7 Comprehensive Income	Unknown	Level4Detail	RollUp	True	CONSISTENT	True	NOT-EXPECTED	Comprehensive Income
æ	8 Financial Highlights	Unknown	Level4Detail	Hierarchy	True	CONSISTENT	True	NOT-EXPECTED	Revenues
Ð	9 Income Statement	Unknown	Level4Detail	RollUp	True	CONSISTENT	True	NOT-EXPECTED	Net Income
æ	10 Income Statement Alternative	Unknown	Level4Detail	RollUp	True	CONSISTENT	True	NOT-EXPECTED	Net Income
Ð	11 Liabilities and Equity Roll Up	Unknown	Level4Detail	RollUp	True	CONSISTENT	True	NOT-EXPECTED	Liabilities and Equity
Ð	12 Nature of Operations	Unknown	Level 1TextBlock	TextBlock	True	CONSISTENT	True	Nature of Operations [Text Block]	NOT-EXPECTED
±	13 Net Assets Roll Up	Unknown	Level4Detail	RollUp	True	CONSISTENT	True	NOT-EXPECTED	Net Assets
Ð	14 Net Cash Flow Roll Up	Unknown	Level4Detail	RollUp	True	CONSISTENT	True	NOT-EXPECTED	Net Cash Flow
æ	15 Prior Period Error	Unknown	Level4Detail	Adjustment	True	CONSISTENT	True	NOT-EXPECTED	Equity
⊞	16 Prior Period Error Alternative	Unknown	Level4Detail	Hierarchy	True	CONSISTENT	True	NOT-EXPECTED	Equity
æ	17 Revenue Recognition Policy	Unknown	Level 1TextBlock	TextBlock	True	CONSISTENT	True	Revenue Recognition Policy [Text Block]	NOT-EXPECTED
Ð	18 Segment Revenues	Unknown	Level4Detail	Hierarchy	True	CONSISTENT	True	NOT-EXPECTED	Revenues
æ	19 Stock Plan Activity	Unknown	Level4Detail	RollForwardInfo	True	CONSISTENT	True	NOT-EXPECTED	Nonvested Fair Value
Ð	20 Variance Analysis	Unknown	Level4Detail	RollUp	True	CONSISTENT	True	NOT-EXPECTED	Net Income

⁵⁰ Pesseract, <u>http://pesseract.azurewebsites.net</u>

Reporting checklist:

#			Disclosure	Checklist Category	Reason Disclosure Must Exist	Discovered	Expectation Met	Link to Disclosure Mechanics
¥	0		Reporting Checklist					
	~	1	Balance Sheet	Required disclosure	Disclosure always required, satisfied by Assets Roll Up and Liabilities and Equity	True	CONSISTENT	Balance Sheet
		2	Assets Roll Up	Part of disclosure	Satisfies Balance Sheet disclosure	True	CONSISTENT	Assets Roll Up
		3	Liabilities and Equity Roll Up	Part of disclosure	Satisfies Balance Sheet disclosure	True	CONSISTENT	Liabilities and Equity Roll Up
		4	Basis of Reporting	Required disclosure	Disclosure always required	True	CONSISTENT	Basis of Reporting
	~	5	Cash Flow Statement	Required disclosure	Disclosure always required, satisfied by Assets Roll Forward and Net Cash Flow	True	CONSISTENT	Cash Flow Statement
		6	Assets Roll Forward	Part of disclosure	Satisfies Cash Flow Statement disclosure	True	CONSISTENT	Assets Roll Forward
		7	Net Cash Flow Roll Up	Part of disclosure	Satisfies Cash Flow Statement disclosure	True	CONSISTENT	Net Cash Flow Roll Up
		8	Changes in Equity	Required disclosure	Disdosure always required	True	CONSISTENT	Changes in Equity
		9	Comprehensive Income	Required disclosure	Disclosure always required	True	CONSISTENT	Comprehensive Income
		10	Financial Highlights	Required disclosure	Disclosure always required	True	CONSISTENT	Financial Highlights
		11	Income Statement Alternative	Required disclosure	Disclosure always required	True	CONSISTENT	Income Statement Alternative
		12	Nature of Operations	Required disclosure	Disclosure always required	True	CONSISTENT	Nature of Operations
		13	Net Assets Roll Up	Required disclosure	Disclosure always required	True	CONSISTENT	Net Assets Roll Up
		14	Prior Period Error	Required disclosure	Disclosure always required	True	CONSISTENT	Prior Period Error
		15	Prior Period Error Alternative	Required disclosure	Disclosure always required	True	CONSISTENT	Prior Period Error Alternative
		16	Revenue Recognition Policy	Required disclosure	Disclosure always required	True	CONSISTENT	Revenue Recognition Policy
		17	Segment Revenues	Required disclosure	Disclosure always required	True	CONSISTENT	Segment Revenues
		18	Stock Plan Activity	Required disclosure	Disclosure always required	True	CONSISTENT	Stock Plan Activity
		19	Variance Analysis	Required disclosure	Disdosure always required	True	CONSISTENT	Variance Analysis
		20	Income Statement	Required disclosure	Disclosure always required	True	CONSISTENT	Income Statement

Other information:

Label			Rendered Value	Ор	Reported Value	Calculated Value	Balance	Result	Name
	Current Assets		500	+	500		Debit		pr 📥
		Noncurrent Assets	3,000	+	3,000		Debit		pr
		Assets	3,500		3,500	3,500	Debit	Verified	pr
~	Lia	abilities and Equity [Roll Up]							pr
	~	Liabilities [Roll Up]							pr
		Current Liabilities	0	+	0		Credit		pr
		Noncurrent Liabilities	0	+	0		Credit		pr
		Liabilities	0	+	0	0	Credit	Verified	pr _≡
	~	Equity [Roll Up]							pr
		Equity Attributable To Controlling Interests	3,000	+	3,000		Credit		pr
		Equity Attributable to Noncontrolling Interests	500	+	500		Credit		pr
		Equity	3,500	+	3,500	3,500	Credit	Verified	pr
		Liabilities and Equity	3,500		3,500	3,500	Credit	Verified	pr
									-

There is much, much more information that Pesseract shows but making every screen shot available in this document would make the document too long. Please review this photo gallery of Pesseract screenshots for more information⁵¹.

⁵¹ Pesseract Photo Gallery, <u>https://photos.app.goo.gl/cWeZYaMBEbmSSm7v8</u>

Conclusion.

Financial reports are 'faithful" and "true and fair" representations of the financial position and financial performance of an economic entity. Professional accountants that want to thrive, or even survive, in the fourth industrial revolution, the information age, need to be able to provide that both human-readable and machine-readable financial reports are properly functioning logical systems that convey the intended meaning of the report creator and are complete, consistent, and precise.

To do otherwise is gross negligence on part of the professional accountant.

This method when used with the proper software tools and principles will help professional accountants achieve their goals of creating properly functioning logical systems that are faithful, true, and fair representations of the financial position and financial performance of an economic entity.