SEC EDGAR System Knowledge Graph

of Public Company Financial Reports

November 27, 2022

This paper describes the attributes and functions of the composite of all financial reports filed with the Securities and Exchange Commission. We posit that each financial report is comprised of a series of multidimensional knowledge graphs and subgraphs. Since the internet itself is comprised of trillions of multi-dimensional namespaces¹, the XML based schema that defines Extensible Business Reporting Language² suggests that all financial reports filed with the SEC should be comprised of indexable cross graph capabilities that should allow true standardization to take place. Since the SEC's adoption of XBRL, the ability to aggregate data from such reports has been challenging. Although accounting standards are codified by the Federal Accounting Standards Board³ and outside the United States by International Financial Reporting Standards⁴, these are human readable. We use knowledge engineering, accounting logic, computer science and cryptography to create the unique controls that constrain codified accounting rule functionality. The Auditchain Protocol⁵, an expert network of peer clients, is deployed to an EVM in order to prove the accurate articulation of financial state of an economic entity.

This paper only summarizes an illustration of limited functions in semantics to convey an understanding of improvements in the articulation and proof of financial state for an economic entity using the Pacioli logic and Reasoning Engine⁶. The Auditchain Protocol itself, a layer 2 network of Pacioli validating nodes lies outside the scope of this paper.

Here we provide a list of primitives to help gain an understanding of the use of semantics which play a critical role in validation of the proof of state of an economic entity.

REPORTS and REPORT MODELS: (machine readable global standard XBRL-based reports and report models:

List of XBRL-based reports submitted to the SEC: https://www.sec.gov/structureddata/rss-feeds-submitted-filings

List of **all** XBRL-based reports submitted to SEC: <u>https://www.sec.gov/Archives/edgar/xbrlrss.all.xml</u>

¹<u>https://www.w3.org/TR/xml-names/</u>

² <u>https://www.xbrl.org/</u>

³ <u>https://www.fasb.org/</u>

⁴ https://www.ifrs.org/

⁵ <u>https://docs.auditchain.finance/</u>

⁶ <u>https://docs.auditchain.finance/auditchain-protocol/pacioli-logic-and-rules-engine</u>

List of reports, **monthly**, RSS feed: https://www.sec.gov/Archives/edgar/monthly/

BASE FINANCIAL REPORTING TAXONOMIES: (machine readable global standard XBRL-based explanation of the financial reporting standards, US GAAP and IFRS: https://www.sec.gov/info/edgar/edgartaxonomies

High level financial report semantics: http://accounting.auditchain.finance/fac/Index.html

Additional financial report semantics:

US GAAP: http://accounting.auditchain.finance/reporting-scheme/us-gaap/documentation/Index.html

IFRS: http://accounting.auditchain.finance/reporting-scheme/ifrs-full/documentation/Index.html

EDGAR Financial Report Knowledge Graph

All Apple Financial Statements

The first battery of tests is of the entire set of 10-Ks and 10-Qs submitted by Apple Inc. to the SEC. Apple was chosen because it is a large company and there are no inconsistencies in any Apple Inc. financial report that has been submitted to the SEC related to the fundamental accounting concepts consistency crosscheck rules. Apple always uses the same reporting style, COMID-BSC-CF1-ISM-IEMIB-OILY-SPEC6

-	Input	A XBRL A	Roll Ups -	Formulas -	Structure -	FAC -	Subtypes -	Disclosures -	Checklists -	Other -	Issues -	Result -	Technical
1	Apple Inc. (AAPL) 10-Q for Q2, 2020	<u>ه</u>	Å.	<u>Å</u>	٨	٨	٨	<u>Å</u>		Å	٨	Explorer	HTML
2	Apple Inc. (AAPL) 10-Q for Q1, 2020	*	*	00 000	*	Å	*	000	0000	*	*	Explorer	HTML
3	Apple Inc. (AAPL) 10-K for FY, 2019	*	2		2	*	*	000	000	*	*	Explorer	HTML
4	Apple Inc (AAPL) 10-Q for Q3, 2019	٨	4	8	٨	٨	2		<u></u>	۸	2	Explorer	HTML
5	Apple Inc. (AAPL) 10-Q for Q2, 2019	.	<u>Å</u>	°89	2	*	*	000	000	<u>Å</u>	2	Explorer	HTML
6	APPLE INC (AAPL) 10-Q for Q1, 2019	<u>å</u>	*	000 0000	*	*	*	000000000000000000000000000000000000000	000	*	*	Explorer	HTML
7	APPLE INC (AAPL) 10-K for FY, 2018	2	2		<u>ی</u>	٨	<u>ھ</u>		2	٨	٨	Explorer	HTML
8	APPLE INC (AAPL) 10-Q for Q3, 2018	<u>Å</u>	<u>Å</u>	000 0000	2	2	<u>Å</u>	0 00 000	00 000	<u>Å</u>	2	Explorer	HTML
9	APPLE INC (AAPL) 10-Q for Q2, 2018	*	*	°80	*	*	*	0000	000	*	*	Explorer	HTML
10	APPLE INC (AAPL) 10-Q for Q1, 2018	<u>Å</u>	*	<u></u>	à	à	Å	80	8	<u>Å</u>	<u>å</u>	Explorer	HTML
11	APPLE INC (AAPL) 10-K for FY, 2017	<u>&</u>		.ee.	<u>Å</u>	<u>Å</u>		8		<u>Å</u>	<u>Å</u>	Explorer	HTML
12	APPLE INC (AAPL) 10-Q for Q3, 2017	8	*	000 0000	*	*	*	°80	880	*	*	Explorer	HTML
13	APPLE INC (AAPL) 10-Q for Q2, 2017	٨	*	2	۵	\$	۵			٨	٨	Explorer	HTML
14	APPLE INC (AAPL) 10-Q for Q1, 2017	۵.	*	8	4	٨	4	8	<u></u>	<u>Å</u>	4	Explorer	HTML
15	APPLE INC (AAPL) 10-K for FY, 2016	å.	2	°°°	*	*	*	°00		*	*	Explorer	HTML
16	APPLE INC (AAPL) 10-Q for Q3, 2016	Å	4	*	4	Å	4			4	4	Explorer	HTML
17	APPLE INC (AAPL) 10-Q for Q2, 2016	٨	2		<u>Å</u>	٨	<u>Å</u>	000		٨	<u>å</u>	Explorer	HTML
18	APPLE INC (AAPL) 10-Q for Q1, 2016	*	*	000	*	*	*	0000	0000	*	*	Explorer	HTML
19	APPLE INC (AAPL) 10-K for FY, 2015	<u>Å</u>	*		4	<u>a</u>	*	330	- 80	4		Explorer	HTML
20	APPLE INC (AAPL) 10-Q for Q3, 2015	<u>Å</u>	*		٨	Å	Å	88	8	<u>à</u>	<u>å</u>	Explorer	HTML
21	APPLE INC (AAPL) 10-Q for Q2, 2015		<u></u>	80 000	*		*			<u>Å</u>	*	Explorer	HTML
22	APPLE INC (AAPL) 10-Q for Q1, 2015	<u>é</u>	*		4	\$	*		.82	4	4	Explorer	HTML
23	APPLE INC (AAPL) 10-K for FY, 2014	<u>&</u>	2	8	٨	<u>Å</u>	2	88	80	٨	2	Explorer	HTML
24	APPLE INC (AAPL) 10-Q for Q3, 2014	Å.	*	000	*	*	*	000	000	*	*	Explorer	HTML
25	APPLE INC (AAPL) 10-Q for Q2, 2014	Å	*	ŝ	Å	A	Å		8	<u>Å</u>	4	Explorer	HTML
26	APPLE INC (AAPL) 10-Q for Q1, 2014	Å	4		Å	Å	\$		8	4	4	Explorer	HTML
27	APPLE INC (AAPL) 10-K for FY, 2013	<u>Å</u>	2	000	2	2	*	000	000 0000	*	2	Explorer	HTML
28	APPLE INC (AAPL) 10-Q for Q3, 2013	<u>A</u>	4		A	A	Å			4	4	Explorer	HTML
29	APPLE INC (AAPL) 10-Q for Q2, 2013	A			4	2	<u>Å</u>	000	000	<u>Å</u>	<u>Å</u>	Explorer	HTML
30	APPLE INC (AAPL) 10-Q for Q1, 2013	<u>å</u>	*	000	*	<u>Å</u>		000	000	<u></u>	<u></u>	Explorer	HTML
31	APPLE INC (AAPL) 10-K for FY, 2012	Å	*	88	4	4	*			*	4	Explorer	HTML
32	APPLE INC (AAPL) 10-Q for Q3, 2012	Å	4		4	A	4	000 0000	000	٨	4	Explorer	HTML
33	APPLE INC (AAPL) 10-Q for Q2, 2012	*	2		*	*	*	80	000	<u>&</u>		Explorer	HTML
34	APPLE INC (AAPL) 10-Q for Q1, 2012	Å	4	ŝ	Å	A	A	8	8	<u>Å</u>	4	Explorer	HTML
35	APPLE INC (AAPL) 10-K for FY, 2011	Å	Å	Å.	Å	Å	Å	2	Å.	Å	٨	Explorer	HTML
	APPLE INC (AAPL) 10-Q for Q3, 2011	<u>Å</u>	4							*		Explorer	HTML

https://auditchain.infura-ipfs.io/ipfs/QmPb4HCPY8HQqxvsvQ2skLiqJwQ5B8jbTADRK8YVqXNosv/

PRIMARY POINT: It is possible for all economic entities to be 100% consistent with the fundamental accounting concepts consistency cross checks.

All Reports for Set of Technology companies:

This second battery of tests is the entire set of 10-Ks and 10-Qs for a set of technology companies that tend to do a good job in the creation of their XBRL-based financial reports. What we have done is grabbed and verified every 10-K and 10-Q against fundamental, high level accounting concepts and relations between those concepts.

Those companies and the number of reports are:

- Microsoft = 43 reports
- Apple = 44 reports
- Google/Alphabet = 43 reports
- Facebook = 31 reports (they went public in like 2015)
- Amazon = 43 reports
- Salesforce = 43 reports

Those companies use THREE different reporting styles which are:

- COMID-BSC-CF1-ISM-IEMIB-OILY-SPEC6 130 reports
- COMID-BSC-CF1-ISS-IEMIB-OILY-SPEC2 74 reports
- COMID-BSC-CF1-ISS-IEMIT-OILY-SPEC2 43 reports

A total of 9 inconsistencies exist in the set of 247 reports and all 9 appear to be errors in the reports created by these companies.

1 FACEBOOK INC (FB) 10-Q for Q2, 2015	<u>Å</u>	<u>Å</u>	°0	<u>Å</u>	<u>Å</u>	<u>ی</u>	°	ŝ	<u>Å</u>	<u>Å</u>	Explorer	HT
2 FACEBOOK INC (FB) 10-Q for Q3. 2013	<u>å</u>	Å	000	<u> </u>	Å	<u> </u>	000	°)	<u>å</u>	Å	Explorer	HT
3 FACEBOOK INC (FB) 10-Q for Q2, 2012	<u>å</u>	<u>å</u>	000	<u> </u>	Å	<u> </u>	000	°)	<u>å</u>	<u>Å</u>	Explorer	HT
4 FACEBOOK INC (FB) 10-Q for Q3, 2012	<u>Å</u>	<u>Å</u>	8	<u>Å</u>	Å	<u> </u>	8	8	<u>å</u>	<u>Å</u>	Explorer	HT
5 FACEBOOK INC (FB) 10-K for FY, 2012	<u>Å</u>	<u></u>	30	<u>Å</u>	Å	<u> </u>	30	8	<u>Å</u>	<u>Å</u>	Explorer	HT
6 FACEBOOK INC (FB) 10-K for FY, 2015	<u>Å</u>	<u>Å</u>		<u>Å</u>	Å	<u>Å</u>	330	33	Å	<u>Å</u>	Explorer	HT
7 FACEBOOK INC (FB) 10-Q for Q2, 2013	<u></u>	<u></u>	<u></u>	<u>Å</u>	<u>Å</u>	*	[])o	330	<u>å</u>	<u></u>	Explorer	HT
8 Facebook, Inc. (FB) 10-K for FY, 2019	*	Å	ů.	Å	Å	Å	<u></u>	ĵĵ	Å	Å	Explorer	HT
9 FACEBOOK INC (FB) 10-K for FY, 2013	<u></u>	Å	ů),	<u>Å</u>	<u>Å</u>	Å	j]3	ĵĵ	Å	<u></u>	Explorer	HT
6 FACEBOOK INC (FB) 10-Q for Q1, 2014	Å	*	°00	Å	Å	<u>Å</u>	<u></u>	en la	Å	Å	Explorer	HT
FACEBOOK INC (FB) 10-Q for Q2, 2014	<u></u>	*)() ()	<u>Å</u>	<u>Å</u>	<u>Å</u>)]() ()	°I]	Å	<u></u>	Explorer	HT
2 FACEBOOK INC (FB) 10-Q for Q3, 2014	<u></u>	*	00°	Å	Å	<u>Å</u>	<u></u>	ŝ	Å	Å	Explorer	HT
3 FACEBOOK INC (FB) 10-K for FY, 2014	<u>å</u>	<u></u>	°	<u>æ</u>	<u>Å</u>	<u>Å</u>	ŝ	°	Å	<u>å</u>	Explorer	HT
4 FACEBOOK INC (FB) 10-Q for Q1, 2015	<u>Å</u>	<u></u>	°0	<u>Å</u>	Å	<u>Å</u>	33	ŝ	Å	<u></u>	Explorer	HT
5 FACEBOOK INC (FB) 10-Q for Q3, 2015	<u>å</u>	<u> </u>	°00	ڪ	<u>Å</u>	<u>Å</u>	°00	<u></u>	<u> </u>	<u>å</u>	Explorer	HT
6 FACEBOOK INC (FB) 10-Q for Q1, 2016	<u>å</u>	Å	000	<u>å</u>	<u>Å</u>	<u>Å</u>	<u></u>	<u></u>	Å	<u>å</u>	Explorer	HT
7 Facebook Inc (FB) 10-Q for Q1, 2019	<u>å</u>	<u>å</u>	°.	ھ	<u>Å</u>	<u>Å</u>	°.	<u></u>	<u> </u>	<u>å</u>	Explorer	HT
8 FACEBOOK INC (FB) 10-Q for Q1, 2013	<u>å</u>	Å	000	<u>å</u>	Å	<u>Å</u>	000	<u></u>	Å	<u>å</u>	Explorer	HT
9 FACEBOOK INC (FB) 10-Q for Q2, 2016	<u>å</u>	<u>å</u>	00	<u>å</u>	Å	<u>Å</u>	°00	ŝ	<u>å</u>	<u>å</u>	Explorer	HT
Facebook Inc (FB) 10-Q for Q2, 2019	<u>Å</u>	Å	°	<u>Å</u>	Å	Å	30	ŝ	Å	<u></u>	Explorer	HT
1 FACEBOOK INC (FB) 10-K for FY, 2018	<u>Å</u>	<u>Å</u>	30	<u>Å</u>	Å	Å	<u></u>	j3°	Å	<u></u>	Explorer	HT
2 Facebook Inc (FB) 10-Q for Q3, 2018	*	Å	<u></u>	Å	Å	Å	<u></u>	j)	Å	Å	Explorer	HT
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https://auditchain.infura-ipfs.io/ipfs/QmcAg9Jznd2Q5oVLnK2nyrYS3v4sePgfrenF16qtnDKDhC/

DOW 30 companies: (13 different reporting styles)

Applying these same ideas, I evaluated the companies that make up the DOW 30; these 30 companies

used 13 different reporting styles to represent their financial reports:

https://auditchain.infura-ipfs.io/ipfs/QmQT13Dt1dmS99SpLRDu7qsw24Bk6ykrDXaEPXVhKbowHi/

Pacioli Technical Analysis Batch Results

A Input	× XBRL ×	Roll Ups	Formulas	- Structure	FAC	- Subtypes	Disclosures	Checklists	- Other	Issues	A Result	Technical
1 MICROSOFT CORPORATION (MSFT) 10-K for FY, 2021		A A									Explorer	HTML
2 Apple Inc. (AAPL) 10-K for FY 2021	4	Å	180		Å			8	A	A	Explorer	HTML
3 salesforce.com. Inc. (CRM) 10-K for FY, 2022	A	A			A				A	A	Explorer	HTML
4 INTEL CORPORATION (INTC) 10-K for FY, 2021	A					000					Explorer	HTML
5 COCA COLA CO (KO) 10-K for FY, 2021		Ä			Ä			A	Ä	*	Explorer	HTML
6 PROCTER & GAMBLE CO (PG) 10-K for FY, 2021	A	Å	88		A	80				A	Explorer	HTML
7 CISCO SYSTEMS, INC. (CSCO) 10-K for FY, 2021	Ā	Ā	A	A	Ā		A		A	A	Explorer	HTML
8 BOEING CO (BA) 10-K for FY, 2021	4	4	*	÷.			A	A	4	4	Explorer	HTML
9 WALGREENS BOOTS ALLIANCE, INC. (WBA) 10-K for FY, 2021	4				4	8				4	Explorer	HTML
10 VISA INC. (V) 10-K for FY, 2021		<u> </u>	4	4		2		A		A	Explorer	HTML
11 Amgen Inc. (AMGN) 10-K for FY, 2021	4	A			A						Explorer	HTML
2 UnitedHealth Group Incorporated (UNH) 10-K for FY, 2021	4	4	Å.	Å	4	Å	Å		4	4	Explorer	HTML
13 Verizon Communications Inc. (VZ) 10-K for FY, 2021	4	A		8	4	88	°8°	, <u>60</u>	A	A	Explorer	HTML
14 WALMART INC. (WMT) 10-K for FY, 2021	A	A	<u>A</u>	<u>Å</u>	4				A	A	Explorer	HTML
15 McDONALDà€™S CORPORATION (MCD) 10-K for FY, 2021	4	A	.85		A	8	8		A	A	Explorer	HTML
16 CATERPILLAR INC (CAT) 10-K for FY, 2021	A	4			A				A	A	Explorer	HTML
17 3M COMPANY (MMM) 10-K for FY, 2021	4	A	Å.		Å	4	4	ŝ	A	4	Explorer	HTML
18 HOME DEPOT, INC. (HD) 10-K for FY, 2020	4	A			A				A	A	Explorer	HTML
19 Travelers Companies, Â Inc. (TRV) 10-K for FY, 2021	4	A	à	*	A	2	2	2	4	4	Explorer	HTML
20 American Express Co (AXP) 10-K for FY, 2021	4	4	0 000 0000	000 0000	4	0 00 000	0 00 000	000 0000	A	4	Explorer	HTML
21 JPMorgan Chase & Co (JPM) 10-K for FY, 2021	A	A	2	2	۵.	2	2	2	A	A	Explorer	HTML
22 The Goldman Sachs Group, Inc. (GS) 10-K for FY, 2021	à	4	00 010	0000	Å	0 000 0000	900 0000	000 0000	A	4	Explorer	HTML
23 NIKE, Inc. (NKE) 10-K for FY, 2021	2	\$	å	38	A	8	8	ŝ	۵	2	Explorer	HTML
24 Honeywell International Inc. (HON) 10-K for FY, 2020	4	۵	000	Å	<u>Å</u>	4	000	000	4	A	Explorer	HTML
25 INTERNATIONAL BUSINESS MACHINES CORPORATION (IBM) 10-K for FY, 2021	2	4	Å.	8	Å	880	880	2	A	4	Explorer	HTML
26 JOHNSON & JOHNSON (JNJ) 10-K for FY, 2021	4	A		80	\$	000	8	8	4	A	Explorer	HTML
27 WALT DISNEY CO/ (DIS) 10-K for FY, 2021	*	4	Å.	Å.	4	å.	*	*	۵	A	Explorer	HTML
28 Chevron Corp (CVX) 10-K for FY, 2021	4	Å			A	000		,ê5,	Å	Å	Explorer	HTML
29 Dow Inc. (DOW) 10-K for FY, 2021	*	\$			Å				A	Å	Explorer	HTML
30 MerckÁ & Co., Inc. (MRK) 10-K for FY, 2021	4	A	â		\$	2			4	A	Explorer	HTML

Fortune 100 companies: (18 different reporting styles)

We applied the same functions to the 100 companies that make up the Fortune 100, those companies used 18 different financial report reporting styles:

. 1	aput in	XBRI -	Roll Ups	Formulas	Structure -	FAC	Subtypes -	Disclosures	Checklists -	Other A	Issues	- Result -	Technical
ſ													
	M COMPANY (MMM) 10-K for PV, 2021	*	A	A .	A	A	A	A	A	A	A	Explorer	HTML
2 4	abott Laboratories (ABT) 10-K for PY, 2021	A	A	4	4	A	4	A	4	4	A	Explorer	HTML
3 A	ccenture pic (ACN) 10-K for FY, 2021	A	A	Α.		A				Α.	A	Explorer	HTML
	iphabet Inc. (GOOGL) 10-K for FY, 2021	A	4	~ ~	A	A	A	A	4	A		Explorer	HTML
	merican International Group, Inc. (AIG) 10-K for PV, 2021 RCHER-DANIELS-MIDLAND CO (ADM) 10-K for PV, 2021	A	A A	A A		Å	A A	A A	A	A	A A	Explorer Explorer	HTML
	RCHER-DANIELS-MIDLAND CO (ADM) 10-K for FY, 2021 NTHEM, INC. (ANTM) 10-K for FY, 2021	Ä	A	A	A .	Å	A A	A A	A .	A .	A	Explorer	HTML
	Ibertsons Companies, Inc. (AC) 10-K for PI, 2021	Â	Â	A	A	Â	A	A.	A	Ä	A	Explorer	HTML
	LISTATE CORP (ALL) 10-K for FV 2021	A	-		A	Ä	A	- A		Ä	-	Explorer	HTML
	MAZON COM, INC. (AMZN) 10-K for PY, 2021	A		A	A	Ā	A	A	Δ.			Explorer	HTML
	MERISOURCEBERGEN CORP (ABC) 10-K for PY, 2021	A		A	A	A	A	A	A	A	A	Explorer	HTML
	merican Airlines Group Inc. (AAL) 10-K for PY, 2021	A	A	A	4	4	A	A .	4		A	Explorer	HTML
	merican Express Co (AXP) 10-K for FY, 2021	A	A	A		A	A.	A	Δ.	A	A	Explorer	HTML
14 8	ingen Inc. (AMGN) 10-K for FY, 2021	*	4	4	4	A	4	4	4	4	*	Explorer	HTML
	dole Inc. (AAPL) 10-K for PY, 2021		A	A	A	Δ.	Δ.	Δ.	A.	Δ.	Α.	Explorer	HTML
	F&T INC (T) 10-K for FY, 2021	A	A	A.		A	A	A	A .	A	A	Explorer	HTML
	ank of America Corporation (BAC) 10-K for FY, 2021	A	A	Α.	A	A	Α.	A	A	Δ.	A	Explorer	HTML
	ERKSHIRE HATHAWAY INC (BRK.A) 10-K for FY, 2021	A	A	4	A.	4	A.	~	A	4	A	Explorer	HTML
19 8	ESTÁ BUY CO., INC. (BBY) 10-K for FY, 2022	*	A	-	A	A	A .	A	A.	Δ.	Α.	Explorer	HTML
	OEING CO (8A) 10-K for FY, 2021	A	A	A .	4	A		A	Δ.	4	A .	Explorer	HTML
	UNGE UNITED (BG) 10-K for PY, 2021	4	A	A	A	A	A.	A	A	4	Α.	Explorer	HTML
	ardinal Health, Inc. (CAH) 10-K for PY, 2021	A	4	A	A .	A	A.	A	A .	A	A	Explorer	HTML
	ATERPILLAR INC (CAT) 10-K for FY, 2021	A A	A A	A	A A	A A	A.	A	A	A A	A	Explorer	HTML
	CO Heldings, LLC () 10-K for PY, 2021 Narter Communications, Inc. (CHTR) 10-K for PY, 2021		Â							a la	2		HTML
	harter Communications, Inc. (CHTR) 10-K for PY, 2021 hevron Corp (CWR) 10-K for PY, 2021	A A	Â	A	A A	Å	A	A	A	Â	Å	Explorer Explorer	HTML
	15C0 51STEMS, INC. (CSCD) 10-K for FY, 2021	Ä	Â	A	A	Å	A	A	A	Â	Ä	Explorer	HTML
	IngroupA Inc (C) 10-K for FY, 2021	A	â	A	A	Â	A	A	4	Â	Ä	Explorer	HTML
	IDCA COLA CO (KD) 10-K for FY, 2021	Ä	Ā	A	A	Ā	A	A	A	Ä	Ä	Explorer	HTML
	IDMCAST CORPORATION (CMCSA) 10-K for FV, 2021	A	A	. A.		A		A	A	A	A	Explorer	HTML
	anacoPhilips (COP) 10-K for FY, 2021	A	A	A		A	A	A	A	A	Ā	Explorer	HTML
	DSTCO WHOLESALE CORP /NEW (COST) 10-K for PY, 2021	A	A	A	A	A	A	A	A	A	A	Explorer	HTML
	VS HEALTH CORPORATION (CVS) 10-K for FY, 2021	A	A	~	A	Δ.	A	A	A.	A	4	Explorer	HTML
	lefi Technologies Inc. (DELL) 10-K for FY, 2022	A	A	- A .	A	A	A	A	A	A	A	Explorer	HTML
	ELTA AR LINES, INC. (DAL) 10-K for FY, 2021	4		*	A	A	A	A	A	4	4	Expiorer	HTML
	low Inc. (DDW) 10-K for PY, 2021	4	*	A	A	A	A	A	A.		٨	Explorer	HTML
37 0	arteve, Inc. (CTVA) 10-K for FY, 2021	A	Δ.	<u>A</u>	A	A	A	A	<u>Å</u>	A	A	Explorer	HTML
	NBRIDGE INC (ENB) 10-K for FY, 2021	A	A	A	A	A	A	A	A	A	A	Explorer	HTML
39 5	won Mobil Corporation (KOM) 10-K for PY, 2021	A	A	4	À	A	A	Å	ă.	A	A	Explorer	HTML
	Neta Platforms, Inc. (FB) 10-K for FY, 2021	*	4	- A -	A	A	Α.	A	A	4	4	Explorer	HTML
	ederal Home Loan Mortgage Corporation (FMDC) 10-K for FY, 2021	A	A	A	A	A	A	A	A	A	A	Explorer	HTML
	edEx Corporation (PDIX) 10-K for PY, 2021	4	A	Å	A	4	A	A	A	4	A	Explorer	HTML
	and Motor Co (F) 10-K for FY, 2021	4	A	A	A	A	A	A	A	A		Explorer	HTML
	ENERAL DYNAMICS CORPORATION (GD) 10-K for PY, 2021	4	4	1	4	4	1.	4	à.	*	4	Explorer	HTML
	ENERAL ELECTRIC COMPANY (GE) 10-K for PY, 2021	4	A	. A.	A.	A	A.	A	A	•	A	Explorer	HTML
	ENERAL MOTORS COMPANY (GM) 10-K for FY, 2021	4	A	A.	A .	A	A	A	A	A	A	Explorer	HTML
	he Goleman Sachs Group, Inc. (GS) 10-K for PY, 2021 IALUSURTON COMPANY (HAL) 10-K for PY, 2021	A	A	A	A	A .	A	A	A	A A	A A	Explorer	HTML
	HE HARTFORD FINANCIAL SERVICES GROUP, INC. (HIG) 10-K for FY, 2021	4	Ä	A.	A	Ä	A.	A.	Å	â	Ä	Explorer Explorer	HTML
	CA Healthcare, Inc. (HCA) 10-K for FY, 2021	Ä	Ä	A	A	Ä	A	A	A	Ä	Ä	Explorer	HTML
	less Corporation (HES) 10-K for PV, 2021	4	A	4	A.	Ä	A	A	A	Ä	Ä	Explorer	HTML
	IOME DEPOT, INC. (HD) 10-K for FY, 2020	A	A	A	A	Ă	A	A	A	A	A	Explorer	HTML
	loneywell international Inc. (HON) 10-K for PY, 2020			A	A	Ā	A	Å	A	Ā	Ā	Explorer	HTML
	IRÁ INC. (HPQ) 10-K for FY, 2021	A		A	A	4	A.	A	A		A	Explorer	HTML
	RUMANA INC. (HUM) 10-K for FY, 2021	4		A.	A	A	A	A	A			Explorer	HTML
56	ITERNATIONAL BUSINESS MACHINES CORPORATION (IBM) 10-K for PV, 2021	4	4	A	A	A	A	A	A.	A	A	Explorer	HTML
	VTEL CORPORATION (INTC) 10-K for PY, 2021			A	A	4	A	A	A		A	Explorer	HTML
58 1	ITERNATIONAL PAPER COMPANY (IP) 10-K for PV, 2021	4	4	A	A	4	A	A	A	4	4	Explorer	HTM
	DHINSON & JOHNSON (JNJ) 10-K for FY, 2021	A	A	A	A	A	A	A	A	Δ.	A	Explorer	HTM
60	PMorgan Chase & Co. (JPM) 10-K for PY, 2021	A	*	A	A.	4	A			A	A	Explorer	HTM
61 T	HE KROGER CO. (KR) 10-K for FY, 2021	Α.	Δ.	A	A	Α.	A	A	A	A	Α.	Explorer	HTM
62 U	OCKHEED MARTIN CORPORATION (LMT) 10-K for FY, 2021	A	A	4	A	A	A.	A.	4	A	A	Explorer	HTM
63 60	OWES COMPANIES INC (LOW) 10-K for PY, 2021	4	A	A	A	A	A	A	A	4	Δ.	Explorer	HTM
	farathon Petroleum Corporation (MPC) 10-K for FY, 2021	A	4	A .	A	4	A	A	A .	Α.	A	Explorer	HTM
65 M	ICDONALD#C*SĂ CORPORATION (MCD) 10-K for FY, 2021	4	A	. ≜		A	A		A	A	A	Explorer	HTM
	AKESSON CORPORATION (MCK) 10-K for FY, 2021	4	4	. A	A		A	A	A	*	Α.	Explorer	HTM
67 M	terckÅ 8, Co., Inc. (MRK) 10-K for FY, 2021	4	A	â.	<u>A</u>	A	A.	4	A.		4	Explorer	нтм
	fetLife, Inc. (MET) 10-K for PY, 2021	4	4	A		A	A	A	A	A		Explorer	HTM
	fetropolitan Life Insurance Co () 10-K for FY, 2021	4	A	A .	A	4	A	A	A	4	A	Explorer	HTM
	ICROSOFT CORPORATION (MSFT) 10-K for FV, 2021	A	4	A	A.	4	A	A	A.	A	A	Explorer	HTM
	fondelÅ's International, Inc. (MDLZ) 10-K for PY, 2021	4	A .	A .	A .	A	A	A .	A .	A	A .	Explorer	HTM
	IDRGAN STANLEY (MS) 10-K for PV, 2021	4	4	4	A .	A	A.	A .	A.	4	4	Explorer	HTM
	IKE, Inc. (NKE) 10-K for PY, 2021 (DRTHRDP GRUMMAN CORP /DE/ (NOC) 10-K for PY, 2021	A A	A A	A	A	A	A	A	A .	A A	A	Explorer Explorer	HTM
	IORTHROP GRUMMAN CORP /DE/ (NOC) 10-K for PY, 2021 WasiCo. Inc. (PDP) 10-K for PY, 2021	A	A	A	A .	A	A	A	A	A A	A	Explorer	HTM
	epsico, Inc. (PEP) 10-K for FY, 2021 F/2ER INC (PFE) 10-K for FY, 2021	Â	Â	A	A	Â	A	A	A	Å	Å	Explorer	HTM
	HUER INC (FFE) 10-8 T0F FT, 2021 HILIP MORRIS INTERNATIONAL INC. (PM) 10-K for FY, 2021	Ä	Â	A	A	Ä	A	A	A	Â	Ä	Explorer	HTM
	HILD MONING IN EXMANDING INC. (MIX) 10-X 10/PT, 2021 HILDS 56 (PSX) 10-X for PY, 2021	Å	Ä	A .	A.	Â	A	A	A.	Ä	Ä	Explorer	HTM
	ROCTER & GAMBLE CO (PG) 10-K for PY, 2021	A	Ä	A	A	Å	A	A	A .	Ä	Ä	Explorer	HTM
	rudential Financial, Inc. (PRU) 10-K for FY, 2021	A	A	A	A	A	A	A	A	Ä	A	Explorer	HTM
	UBLIX SUPER MARKETS, INC. () 10-K for PV, 2021	A	A	A	A	A	A		A	A	A	Explorer	HTM
	ITE AID CORP (RAD) 10-K for PV, 2021	A	4	A	A	4	A	A	A	4	A	Explorer	HTM
	alesforce.com, Inc. (CRM) 10-K for PY, 2022	4	A	A.	A	A	A	A	<u>A</u> .	A	4	Explorer	HTM
	ssco Corporation (SYY) 10-K for FV, 2021		4	A .		A	A	A	A.,	*	Δ.	Explorer	HTM
84 5		A	A	Δ.	A	Δ.	A	A	A	A	Δ.	Explorer	HTM
84 5	ARGET CORP (TGT) 10-K for FY, 2021			A .	A	4	A.	A	Α.	4	A	Explorer	HTM
84 S) 85 T2 86 Te	ARGET CORP (1GT) 10.4 for PY, 2021 esia, Inc. (1SLA) 10.4 for PY, 2021	4	4		A	A	A	A	A	Δ.	Δ.	Explorer	HTM
84 5 85 14 86 16 87 7-	ARGET CORP (TGT) 10-K for FV, 2021 esk, foc. (TSLA) 10-K for FV, 2021 -MOBUE US, INC. (TMUS) 10-K for FV, 2021	A	A	A.			A		÷.	4	A .	Explorer	HTM
84 \$) 35 12 36 18 87 1- 88 18	ARGET CORP (1511) 10-K for FY, 2021 Bell, Intel (1544) 10-K for FY, 2021 -MOBILE UK, Intel (10-K for FY, 2021 -MOBILE UK, Intel (10-K for FY, 2021		A	A		A		A		A			
84 5 85 72 86 8 87 7 88 7 89 7	ARGET CORP (101) 10-K for (Y, 3021 esis, Inc. (2543) 10-K for (Y, 3021 		A A A	A A	A A	A	Α.	A	Α.	A	A	Explorer	
84 5) 85 14 86 50 87 7- 88 7 89 70 90 0	AMACE COMP (F201) To A for Pr, 2021 bill, Inc. (SSLA) To A for Pr, 2021 MAREL US, Inc. (CHMIS) To A for Pr, 2021 Sameters Companies, A for CHMIS To A for Pr, 2021 ISON FODOS, INC. (TSN: 1544 for Pr, 2021 INCOM FODOS, INC. (SSLA) To A for Pr, 2021 INCOM FODOS, INC. (SSLA) To A for Pr, 2021					Å	A A	A A	A	A	A	Explorer Explorer	HTM
84 5 85 12 86 38 87 7 88 7 90 0 91 0	AMACT CORE (1971) SAK KIP Y 2021 Rein (1994) TAVA (1971) SAK KIP Y 2021 AMACES LOS (1962) CHARLES (1976) STARK (1972) 2021 TAVARDES LOS (1976) STARK (1972) 2021 TAVARDES (1976) STARK (1974) 2021 Intel & Altima Extension, Inc. (1984) STARK (1972) 2021 Intel Altimatismeth Stark (1974) 2021						A A A	A A A	A A A	A A A	A	Explorer Explorer Explorer	нтм
84 5 85 12 86 5 87 7 88 5 90 0 91 0 92 0	Alder CORP (1011) No. Ker. Yr. 2021 Iein, Ymc (1544) 1 No. Ker. Yr. 2021 Marenes Congeniau, Alwe, (1914) 1 No. Ker. Yr. 2021 Marenes Marenes, Alwe, (1914) 1 No. Ker. Yr. 2021 Marenes Marenes, Alwe, (1914) 1 No. Ker. Yr. 2021 Marenes Marenes, Collwy, (1914) 1 No. Ker. Yr. 2021 Marenes Marenes, Collwy, (1914) 1 No. Ker. Yr. 2021					A A A						Explorer Explorer Explorer Explorer	HTM HTM HTM
84 50 85 72 86 36 87 7 88 30 90 30 91 30 92 30 93 80	Add CODP (1) Solver Y, 2021 website Charlos 10 Adv YY, 2017 Andread Uni, Huno, Charlos (1) Adv YY, 2021 Marenes Dangaland Alles (1) YH Solver Y, 2021 Mineta Annen Honorga, Inc. (2) XII Solver Y, 2021 Mineta Annen Honorga (1) XII Solver Y, 2021 Mineta Marenes Honorga (2) XII Solver Y, 2021 Mineta Marenes Honorga (2) XII Solver Y, 2021 Mineta Marenes Marenes (2) XII Solver Y, 2021					A A A A					A A A	Explorer Explorer Explorer Explorer Explorer	HTM HTM HTM
84 50 85 12 86 12 87 1 88 1 90 1 91 1 92 1 93 1 94 1	AME (SOP 101) SA 64 77, 2021 alia her (SUA) 103 64 767, 2021 AMERICAN (SAN 101) SA 76 77, 2021 AMERICAN (SAN 101) SA 76 77 2021 AMERICAN (SAN 102) SAN 107 2021 AMERICAN (SAN 102) SAN 102 AMERICAN (SAN 102) SAN 102 AMERIC	A A A A A A A A									A A A A	Explorer Explorer Explorer Explorer Explorer	HTM HTM HTM HTM
84 50 85 12 86 16 87 1 88 1 90 0 91 0 92 0 93 0 94 0	Add (1009 (11) Socker Pr. 2021 Add (1009 (11) Socker Pr. 2001 Add (1											Explorer Explorer Explorer Explorer Explorer Explorer Explorer	нтм нтм нтм нтм нтм нтм нтм
84 50 85 72 86 76 88 70 90 10 91 10 92 10 93 80 94 93 95 94 96 94	AME (1029 PU) 19-4 for Y, 2011 and her (1024 PU) 49-6 (Y, 2011 AME (1024 PU) 49-7 (2011 AME (1024 PU) 49-7 (2011) AME (1024 PU) 49-7 (2011)									4 4 4 4 4 4 4		Econer Econer Econer Econer Econer Econer Econer	нтм нтм нтм нтм нтм нтм нтм
84 50 85 12 86 86 87 7 88 20 90 0 91 0 92 0 93 6 94 90 95 94 96 97	Add (1009 (11) Societ / 2011 Add (1009 (11) Societ / 2011 Add (11) Societ /	A A A A A A A A A A A	4 4 4 4 4 4 4 4									Econer Econer Econer Econer Econer Econer Econer Econer	HTM HTM HTM HTM HTM HTM HTM HTM
84 50 85 12 86 7 88 7 88 7 90 90 91 90 92 93 94 95 95 97 96 97 98 90	AME (1029 PU) 19-4 for Y, 2011 etals, her. (1024 PU) 19-4 (2011 Sensets Company) (2011 PU) 19-5 (2011 PU) 2014 Sensets Company) (2011 PU) 19-5 (2011 PU) 2014 Hereitan Annan Editory, her. (2011 PU) 19-7 (2011 Hereitan Annan Editory, her. (2011 PU) 19-7 (2011 Hereitan Annan Editory, her. (2011 PU) 19-7 (2011 Hereitan Senset, her. (2011 PU) 19-7 (2011 Hereitan Company) (2011 PU) 19-7 (2011 Hereitan Company) (2011 PU) 19-7 (2011									4 4 4 4 4 4 4		Econer Econer Econer Econer Econer Econer Econer	HTM HTM HTM HTM HTM

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All reports for ONE reporting style:

All 1364 companies that use the same high level reporting style: (COMID-BSC-CF1-ISM-IEMIB-OILY-SPEC6; Classified balance sheet, reports gross profit, standard cash flow statement)

A Input	XBRL -	Roll Ups	- Formulas	Structure	FAC	Subtypes	Disclosures	Checklists -	Other -	Issues	- Result -	Technical
1 12 Retech Corp (RETC) 10-K for FY. 2017	-0 <u>1</u>	A	Å	Å	A		Å	Å	A	Å	Explorer	HTM
2 1 800 FLOWERS COM INC (flws) 10-K for FY. 2018	4	Α.	<u>A</u>	A	A	A	A.	A	A	A	Explorer	HTM
3 22nd Century Group. Inc. (XXII) 10-K for FY. 2018	<u>Å</u>	A	<u>ê</u> ,	A	A	A	<u>.</u>	<u>A</u>	A	4	Explorer	HTN
4 3D SYSTEMS CORP (ddd) 10-K for FY, 2018	4	A	A	A	A	A	点	<u>A</u>	A	A	Explorer	HTM
5 3PEA INTERNATIONAL INC. () 10-K for FY. 2018	A	A	<u>A</u>	A	A	A	A	A	A	A	Explorer	HTN
6 A10 Networks. Inc. (ATEN) 10-K for FY, 2018	A	A	<u>A</u>	A	A	A	A	A	A	A	Explorer	HTN
7 AAON INC () 10-K for FY, 2018	4	A	<u>å</u>	A	A	A	<u>Å</u>	4	A	A	Explorer	HTM
8 ABERCROMBIE & FITCH CO /DE/ () 10-K for FY, 2017	4	A	A.	A	A	A	<u>Å</u>	<u>A</u>	A	A	Explorer	HT
9 Abtech Holdings. Inc. (ABHD) 10-K for FY. 2017	<u>A</u>	A	A	A	A	A	<u>A</u>	<u>A</u>	A	A	Explorer	HT
10 Acacia Diversified Holdings. Inc. () 10-K for FY, 2017	4	A	A.	A	A	A	<u>A</u>	A.	A	A	Explorer	HT
11 Accelerate Diagnostics. Inc. () 10-K for FY, 2018	4	A	<u>Å</u>	A	A	A	<u>Å</u>	<u></u>	A	A	Explorer	HT
12 ACCELERIZE INC. (aciz) 10-K for FY. 2017	A	A	A	A	A	A	Δ.	A	A	A	Explorer	HT
13 ACCURAY INC (ARAY) 10-K for FY. 2018	4	A	<u>A</u>	A	A	A	4	<u></u>	A	A	Explorer	HT
14 ACETO CORP (acet) 10-K for FY. 2018	A	A	<u>Å</u>	A	A	A	<u>Å</u>	<u>A</u>	A	A	Explorer	HT
15 Aclaris Therapeutics, Inc. () 10-K for FY, 2018	4	A	4	A	A	A	<u>Å</u>	<u>Å</u>	A	A	Explorer	нт
16 ACME UNITED CORP () 10-K for FY. 2018	A	A	A	A	A	A	A	A	A	A	Explorer	HT
17 ACM RESEARCH, INC. (ACMR) 10-K for FY, 2018	A	A	4	A	A	A	<u>Å</u>	<u></u>	A	A	Explorer	HT
18 ACTUANT CORP (ATU) 10-K for Q4, 2018	A	A	4	A	A	A	<u>A</u>	A	A	A	Explorer	HT
19 Acushnet Holdings Corp. () 10-K for FY, 2018	<u>A</u>	A	<u>A</u>	A	A	A	<u>A</u>	<u>A</u> .	A	A	Explorer	HT
20 ACXIOM CORP () 10-K for FY. 2018	A	A	4	A	A	Δ.	<u>A</u>	A.	A	A	Explorer	HT
21 Addus HomeCare Corp (adus) 10-K for FY, 2018	A	A	À	A	A	A	<u>Å</u> .	<u>A</u>	A	A	Explorer	HT
22 ADDVANTAGE TECHNOLOGIES GROUP INC (aey) 10-K/	A	A	A.	Δ.	A	A		A	A	A	Explorer	HT
23 ADESTO TECHNOLOGIES CORP (IOTS) 10-K for FY, 2018	A	A	ė.	A	A	A	<u>A</u>	A.	*	4	Explorer	HT
24 ADOBE INC. () 10-K for FY, 2018	4	A	4	A	A	A	A.	A	A	A	Explorer	HT
25 Adomani, Inc. (adom) 10-K for FY, 2018	A	A	A	A	A	A	A .	A.	A	A	Explorer	HT

https://auditchain.infura-ipfs.io/ipfs/QmPqJrCdpYwqZQoxgGDtyf4gnqNXZrUQbi56nogzW7MYED/

371 Bank Financial Reports that use One Specific Reporting Style

This battery of tests used the financial reports of 371 banks (depository institutions), all 10-Ks, and all of which used the same reporting style which was INTBX-BSU-CF1-ISS-IEMIX-OILN.

Of those 371 reports, there were 83 (or 23%) reports found that contained inconsistencies with at least one of the fundamental accounting concept continuity cross checks. That means that 288 (or 77%) of reports were consistent with all fundamental accounting concepts and the relations between those concepts.

h Input	XBRL -	Roll Ups	Formulas -	Structure -	FAC -	Subtypes -	Disclosures A	Checklists 4	Other	Issues	A Result	Technical
1 ACCESS NATIONAL CORP (ANCX) 10-K for FY	Å	<u>Å</u>	20	\$	*	A	13*	200	A	A.	Explorer	HTM
2 Allegiance Bancshares, Inc. (abtx) 10-K for FY, 2	A	A	<u>A</u>	A	A	A		<u>A</u>	A	A	Explorer	HTM
3 AMERICAN EXPRESS CO (AXP) 10-K for FY, 2018	*	<u>Å</u>	<u>.</u>	Å	*	A	10°	<u>å.</u>	<u>Å</u>	*	Explorer	HTM
4 AMERICAN NATIONAL BANKSHARES INC. () 10	Å	Å		Å	A	A	8	000	*	Å	Explorer	HTN
5 AMERICAN RIVER BANKSHARES () 10-K for FY,	å	*	÷	Å	*	Å	13°	130	*	2	Explorer	HTN
6 Ameris Bancorp (ABCB) 10-K for FY. 2018	A	A	<u>Å</u>	A	A	A	å	<u>Å</u>	Å	A	Explorer	HTN
7 AMERISERV FINANCIAL INC /PA/ (ASRV) 10-K f	A	<u> </u>	<u>Å</u>	A	*	A	100	-0 <u>0</u>		A	Explorer	HTM
8 AMES NATIONAL CORPORATION (atlo) 10-K fo	A	Å	<u>Å</u>	A	A	A	000	<u>.</u>	*	A	Explorer	HTN
9 Anchor Bancorp () 10-K for FY. 2018	Å	Å	°89	*	*	Å	100	000	2	Å	Explorer	HTN
0 Arrow Financial Corporation () 10-K for FY, 2018	Å	Å	00	A	A	A	0	.00 6-0	Å	Å	Explorer	HTN
11 ASSOCIATED BANC-CORP (ASB) 10-K for FY, 2	Å	*	°01	A	Å	Å	000	ŝ	<u>å</u>	*	Explorer	HTN
12 ATLANTIC CAPITAL BANCSHARES, INC. () 10-K	A	A		A	A	A			Å	Å	Explorer	HTN
13 Atlanticus Holdings Corp (atlc) 10-K for FY, 2018	A	*	ŝ	<u>A</u>	*	Å	000	°0;	Å	*	Explorer	HTN
14 Auburn National Bancorporation, Inc (AUBN) 1	A	A	<u></u>	A	A	Å	000	Å	Å	A	Explorer	HTN
15 BANCFIRST CORP /OK/ (BANF) 10-K for FY, 2018	4	4	ŝ	Å	<u>Å</u>	Å	-00 20	<u>Å</u>	A	*	Explorer	HTN
16 Bancorp 34. Inc. (bctf) 10-K for FY, 2018	A	A	100 A	A	A	A		Å	A	A	Explorer	HTN
7 Bancorp. Inc. (tbbk) 10-K for FY, 2018	4	*	200	*	۵	4	000	<u>Å</u>	4	4	Explorer	HTN
18 Bancorp of New Jersey, Inc. () 10-K for FY, 2018	A	à	 	4	A	A	00 000	*0 <u>8</u>	A	A	Explorer	HTN
19 BankFinancial CORP () 10-K for FY, 2018	*	*	8	4	A	Å	°8	230	Å	4	Explorer	HTN

BOTTOM LINE: Running the fundamental accounting concepts continuity cross checks rules to verify that

financial reports created are consistent with those rules can be done for every company that creates reports per one of many different reporting styles. We believe the same holds true for EACH reporting style.

The accounting equation helps to understand the types of errors that can occur:

Analyzing simple reports created to represent the accounting equation can help those who want to understand precisely what types of errors can exist within XBRL-based financial reports.

The results of validating a batch is uploaded to IPFS. The validation results for each report and a summary page that relates all verification results on one page is provided:

https://auditchain.infura-ipfs.io/ipfs/QmQ8khsfrsSsnGkusa9mHBfMmGeq4NAfhNN427k7AbYkp3

Generated by Paciali version 0e0bce5 (updated 12 days ago). Analysis at 2022-11-25715:51:05+0000 for someUserEmail_NotYetUsed. This report will remain online at http://docalast/3050/cenorthanksic/2080-5072/250-b011566/b04658=304rd 728-2r apart/index.html for about 00 days



Pacioli	Technical	Analysis	Batch	Results
i acion	recunicar	7 third y 515	Dutti	nesures

Reports from /workdir/Batc	h_Pacioli_AE.txt; this list took 26	3 seconds to analyse by 1 workers, a	nd is available in JSON format	here with a summary th	ere. Preliminary metaverse view.	

*	Input 🔺	XBRL 🔺	Roll Ups	Formulas	Structure 4	FAC	Subtypes	Disclosures	Checklists	Other	Issues	A Result	Technical
1	Report for		000	<u>&</u>	å						å	Explorer	HTML
2	Report for	*		000	*	*	*	*	*	<u>å</u>	*	Explorer	HTML
3	Report for	2	200	8	8	<u>å</u>	2	<u></u>	2	2	2	Explorer	HTML
4	Report for	<u>å</u>	00 0000	0 000 0000	*	Å	*	Å	*	2	2	Explorer	HTML
5	Report for	2	000	0000	8	<u>å</u>	2	Å	*	2	2	Explorer	HTML
6	Report for	*	000	Å	*	<u>å</u>	å	Å	å.	2	*	Explorer	HTML
7	Report for	*	eeeo	*	88	*	***	2	***	*	*	Explorer	HTML
8	Report for	*	000	*	*	Å	Å	*	*	*	2	Explorer	HTML
9	Report for	2	*	000	***	*	***	*	*	*	2	Explorer	HTML
10	Report for	å	000	*	*	*	*	*	*	<u>å</u>	Å	Explorer	HTML
11	Report for	2	000	2	2	88	8	8	2	2	8	Explorer	HTML

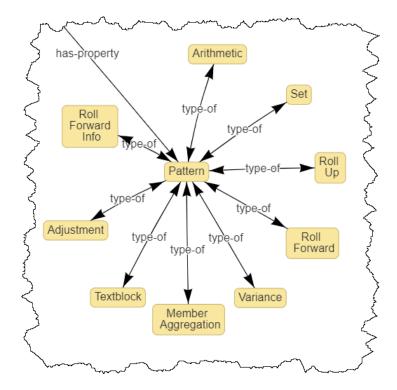
(Note that the verification result files provided above and on the summary page are different physical files.)

Proof helps one understand the potential complexity of XBRL-based financial reports and the notion of completeness:

The following Pacioli batch of reports is not part of the SEC EDGAR system, however it is provided in order to help the reader understand two important ideas.

The first idea to understand is the notion of "information complexity" that might exist within an XBRLbased financial report. SEC XBRL-based financial reports have "patterns" of information within those reports. For example, the notion of a "roll up" mathematical relation and a "text block" and a "set" of information are information patterns that clearly exist within the XBRL-based reports submitted to the SEC.

This PROOF example batch helps gain an understanding of the information complexity within scope and that the Luca Suite understands all of these information models. Here is a summary of the information models that might exist in an XBRL-based financial report.



The second idea to understand is the notion of "rule completeness". Within XBRL-based reports submitted by public companies to the SEC there are ROLL UP mathematical relations. For example, a balance sheet and an income statement are examples of roll up relations in XBRL-based reports and XBRL calculations relations are used to represent those mathematical relations in report models.

But in addition to "roll ups", other common mathematical relations exist in XBRL-based reports of public companies submitted to the SEC. For example, "roll forwards", which is a common financial reporting information pattern which commonly exists in those reports.

However, XBRL calculations cannot be utilized to represent or describe those roll forward mathematical relations. But XBRL has a mechanism for representing roll forward and other such mathematical relations that are beyond the capabilities of XBRL calculations to describe and verify against the description. That mechanism is XBRL Formula.

But the SEC does not allow XBRL formula-based rules to be submitted with XBRL-based reports to the SEC EDGAR system. But if those XBRL Formulas are not provided to describe and to be used to verify the roll forward mathematical relations; then how does one know that such roll forward relations are represented correctly in XBRL-based financial reports?

The answer to that question is that you cannot know that roll forward representations are correct in XBRL-based reports submitted to the SEC by public companies unless additional information is added to such reports.

In this way, XBRL-based financial reports submitted to the SEC are "incomplete" in terms of providing a complete description of the mathematical relations between facts in such machine-readable financial reports.

As such, XBRL-based reports do not completely describe roll forward and other such mathematical

associations in financial reports that are beyond the capabilities of XBRL calculations. Therefore, such XBRL-based financial reports are not complete in this regard.

However, the PROOF reports provided are complete in terms of mathematical relations represented and are fully described and are externally validated to assure that such mathematical relations are consistent with expectations.

Other rules that are necessary to verify that a report model is consistent with financial reporting and accounting logic and rules. The PROOF makes these missing categories of rules obvious.

https://auditchain.infura-ipfs.io/ipfs/QmXNz59iwx2GUcdGnpEUsBRrxMvwEs4EGpHea3d2bgUY7n/

Pacioli Technical Analysis Batch Results

	Input	XBRL -	Roll Ups 🔶	Formulas -	Structure -	FAC -	Subtypes -	Disclosures -	Checklists -	Other -	Issues 🔺	Result -	Technical
1	Report for GH259400TOMPUOLS65II on 2020-12-31	100	<u></u>	*	en e	100	100	300	100	*	2	Explorer	HTML
2	Report for GH259400TOMPUOLS65II on 2020-12-31	2	<u>Å</u>	<u>å</u>	600	<u></u>	<u></u>	<u></u>	<u></u>	Å	<u>Å</u>	Explorer	HTML
3	Report for GH259400TOMPUOLS65II on 2020-12-31	*	*	2	<u>å</u>	30°	00 10	30	30°	٨	ஃ	Explorer	HTML
4	Report for GH259400TOMPUOLS65II on 2020-12-31	*	*	*	*	<u>å</u>	100	100	j.	*	*	Explorer	HTML
5	Report for GH259400TOMPUOLS65II on 2020-12-31	2	<u>Å</u>	2	<u>Å</u>	Å	<u>å</u>	°8]	°0]	A	2	Explorer	HTML
6	Report for GH259400TOMPUOLS65II on 2020-12-31	***	Å	*	Å	Å	<u>å</u>	Å	00°	<u>Å</u>	*	Explorer	HTML
7	Report for GH259400TOMPUOLS65II on 2020-12-31	*	2	*	*	2	ي ا	<u>å</u>	2	<u>å</u>		Explorer	HTML

Notice that reports where GRAY logos exist and where GREEN exist. The first six reports are only verified using a subset of the total set of possible validation controls. The purpose of this is to help gain an understanding of the difference between providing and using controls for validation and not using validation. No controls means that no validation is possible. With the controls, validation is possible. If a report does not have inconsistencies, it could be because the report has an incomplete set of rules.

We propose that accurately articulating and externally proving financial state for any economic entity gains stakeholder community confidence.