

17. Analysis and Comparison of Digital Financial Reports

The ultimate test as to whether a digital financial report is properly created is its utility in terms of being analyzed and/or compared. After all, prudence dictates that making use of XBRL-based financial information should not be a guessing game. Rather, using the information should be safe, reliable, predictable, and repeatable.

This section uses the example of XBRL-based public company financial reports in order to discuss the use and analysis of digital financial reports. This section places no judgments as to what *should* be comparable. That is up to the financial reporting supply chain. This section is about what is *necessary* for use and comparability to occur. Decisions as to *where* comparability should exist are questions which the reporting supply chain participants must answer.

Use of digital financial information should not be equated the techniques used to gather and use information today. Consider the following videos of one analysis software application which leverages XBRL as an example of the possibilities enabled by digital financial reporting:

<http://www.sqlpower.ca/consulting/page/xbrl-analytics>

17.1. Change in the analysis paradigm

Today, financial information is a general, pre-canned, static, one-size-fits-all, hard to use let alone reuse report where a reporting entity tells the reader what information is important. The story the financial report tells is from one perspective, the creator of the financial report.

Today, each financial analyst pulls out the facts which that analyst believes are the relevant facts, makes adjustments to the facts reported by the company, and defines their own unique perspective of how that company provides economic value.

Today, the financial information supply chain has inefficiencies which can be improved using automated machine-based processes to help perform analysis.

Digital financial reports make analysis easier. Digital financial reports changes the fundamental equation making a one-size-fits-all and single perspective unnecessary.

Eventually what digital financial reports offer will change what regulators and standards setters specify what a financial statement looks like and what a financial report contains.

The supply change will be reversed and users of the information will pull the relevant facts which they feel they need, rather than one perspective a broad set of hundreds if not thousands of different perspectives will be available. Analysts will compete at the level of their unique perspective as to the economic value provided by a company. Analysts and other consumers of digital financial information will assemble their own unique reports rather than rely on the pre-canned stories told by the companies themselves. Rather than having one view forced upon you, each consumer of information will find it easier to assimilate their own estimation/judgment as to the viability of a company and the economic value that company provides.



There are two different parts to analysis of information: (1) obtaining reported facts and (2) interpretation of reported facts. Machine-readable XBRL-based digital financial reports are about providing those facts using automated processes, rather than through rekeying information. That is the focus. The story told by the economic entity reporting the facts and the story understood by the analyst consuming the facts would be the same. A fact is a fact. How analysts interpret the facts is up to each individual analyst.

Digital financial reporting will make analysis more efficient, will make information easy to share, will, perhaps, arguably make financial analysis more effective. While all this has yet to be seen, the possibility seems to be within grasp if you understand how to look.

17.2. Repository of machine-readable facts

The purpose of this section is to set your perspective and expectations. Imagine a machine-readable repository of information. Imagine that you want to query that repository and get the value of two concepts for every economic entity in that repository: *Assets* and *Liabilities and Equity*. In order to extract that information from any XBRL-based financial report using a machine-based process the following process needs to be followed:

1. Software MUST locate each report you want to query. You want to be sure you have the correct report. For example, if a report is amended, you need the most current report.
2. The report MUST be valid XBRL technical syntax. If the technical syntax is invalid, you may or may not get the correct results.
3. Software MUST locate the appropriate reporting units (currency). In the case of public company financial reports, 99% of entities report using US Dollars. However, 1% use other currencies as the reporting units.
4. Software MUST appropriately identify the root reporting entity in the report, we don't want business segment information. Generally, this is the consolidated entity but it could be a parent holding company or some other accounting entity.
5. Software MUST appropriately locate the current balance sheet date. Generally you want information about the current balance sheet data and not the prior balance sheet, both are provided in the same report.
6. Software MUST find the appropriate US GAAP concept used to express *Assets* which is `us-gaap:Assets`.
7. Software MUST find appropriate US GAAP concept for *Liabilities and Equity*. This is a little harder because there are multiple possible concepts: `us-gaap:LiabilitiesAndStockholdersEquity` or `us-gaap:LiabilitiesAndPartnersCapital`.
8. Software MUST check the returned information to assure that it is consistent with what is expected, the business domain rule that "Assets = Liabilities and Equity".

That is an overview of the workflow/process to obtain a basic set of information from the repository of XBRL-based public company financial filings. And here are the



results of that query for every financial report from the SEC EDGAR system of XBRL-based public company financial reports:

xbrl:Entity	Legal Entity	Fiscal Period	Fiscal Year	Assets	Liabilities and Equity	Units	Difference in Value
All CIK numbers	Root economic entity	FY	2001	280	280	iso4217:USD	0
All CIK numbers	Root economic entity	FY	2009	31,586,555,000	31,586,555,000	iso4217:USD	0
All CIK numbers	Root economic entity	FY	2010	23,061,516,000	23,061,516,000	iso4217:CAD	0
All CIK numbers	Root economic entity	FY	2010	8,833,200,000	8,833,200,000	iso4217:GBP	0
All CIK numbers	Root economic entity	FY	2010	33,205,444,569,755	33,235,543,477,631	iso4217:USD	30,098,907,876
All CIK numbers	Root economic entity	FY	2011	45,216,467	45,216,467	iso4217:AUD	0
All CIK numbers	Root economic entity	FY	2011	110,885,000	110,885,000	iso4217:BRL	0
All CIK numbers	Root economic entity	FY	2011	28,708,716,218	28,708,716,218	iso4217:CAD	0
All CIK numbers	Root economic entity	FY	2011	1,226,733,000	1,226,733,000	iso4217:EUR	0
All CIK numbers	Root economic entity	FY	2011	7,938,800,000	7,938,800,000	iso4217:GBP	0
All CIK numbers	Root economic entity	FY	2011	1,565,000	1,565,000	iso4217:ILS	0
All CIK numbers	Root economic entity	FY	2011	46,395,324,314,234	46,165,763,878,111	iso4217:USD	(229,560,436,123)
All CIK numbers	Root economic entity	FY	2012	49,066,850	49,066,850	iso4217:AUD	0
All CIK numbers	Root economic entity	FY	2012	32,470,161,238	32,470,161,238	iso4217:CAD	0
All CIK numbers	Root economic entity	FY	2012	1,303,349,000	1,303,349,000	iso4217:EUR	0
All CIK numbers	Root economic entity	FY	2012	10,504,300,000	10,504,300,000	iso4217:GBP	0
All CIK numbers	Root economic entity	FY	2012	47,493,211,088,244	47,307,285,874,940	iso4217:USD	(185,925,213,304)
All CIK numbers	Root economic entity	FY	2013	54,642,443	54,642,443	iso4217:AUD	0
All CIK numbers	Root economic entity	FY	2013	39,919,462,935	39,919,385,738	iso4217:CAD	(77,197)
All CIK numbers	Root economic entity	FY	2013	13,120,000	13,120,000	iso4217:EUR	0
All CIK numbers	Root economic entity	FY	2013	48,909,115,040,682	48,735,740,980,605	iso4217:USD	(173,374,060,077)
All CIK numbers	Root economic entity	FY	2014	342,493,649,881	342,493,649,881	iso4217:USD	0
				176,531,415,952,227	175,972,655,073,402		(558,760,878,825)
							-0.3%

The results¹⁸⁵ show that most of the balance sheets balance, *Assets = Liabilities and Equity*. Some are inconsistent with what you would expect. The total inconsistency is .3% which is not too bad. However, the information needs to be 100% consistent in order to not get humans involved to figure out exactly what is causing the inconsistencies.

What needs to be considered when querying other facts from a repository works in exactly the same way as this basic query.

17.3. Comparing fundamental accounting concepts

Professional accountants understand that economic entities have many similarities in how they report information and they also have differences. As explained in the section *Understanding Fundamental Accounting Concepts and Report Frames*, some reporting entities provide a classified balance sheet and other reporting entities provide an unclassified balance sheet. It is impossible to compare at the level of current and noncurrent assets and liabilities if such a breakdown of information does not exist. However, a comparison can still be made at the level of assets and liabilities and equity as this high level is provided by both entities.

Every general purpose financial report is comparable to all other reports at a very high level. For example, every economic entity reports assets, liabilities, equity, revenues, net income (loss), net cash flow, and so forth.

Economic entities are directly comparable to other economic entities if each entity reports using the same style of reporting. For example, if current assets, current

¹⁸⁵ Query and results provided by SECXBRL.info which is a commercial software application, see <http://app.secxbml.info/>



liabilities, gross profit, operating income (loss), and other such information is explicitly provided; then the information is directly comparable. Even if some information is not explicitly provided, such as total noncurrent assets or total noncurrent liabilities, financial information is still comparable many times information which is not explicitly provided can be imputed based on other explicitly provided information. For example, if assets is reported and current assets is reported; the value of noncurrent assets can be safely imputed because the relationship between assets, current assets, and noncurrent assets is well established to be $assets = current\ assets + noncurrent\ assets$.

And so for arguments sake, imagine that you had an economic entity which explicitly reported some specific set of facts and other facts could be imputed using well established and agreed upon relations of other financial facts as is shown below:

General information				
Entity Registrant Name	ABC Company, Inc.	Reported	OK	dei:EntityRegistrantName
CIK	0000000001	Reported	OK	dei:EntityCentralIndexKey
Entity Filer Category	Large Accelerated Filer	Reported	OK	dei:EntityFilerCategory
Trading symbol	abc	Reported	OK	dei:TradingSymbol
Fiscal Year End	--12-31	Reported	OK	dei:CurrentFiscalYearEndDate
Fiscal Year	2012	Reported	OK	dei:DocumentFiscalYearFocus
Fiscal Period	FY	Reported	OK	dei:DocumentFiscalPeriodFocus
Document Type	10-K	Reported	OK	dei:DocumentType
Balance Sheet Date	2012-12-31	Reported	OK	dei:DocumentPeriodEndDate
Income Statement Start Period (Year to Date)	2012-01-01	Imputed	OK	Determined by examination of filing
Balance Sheet				
Classified				
Current Assets (if classified balance sheet)	56,000,000	Reported	OK	us-gaap:AssetsCurrent
Noncurrent Assets (if classified balance sheet)	91,000,000	Imputed	OK	Noncurrent assets not found; however assets and current assets reported.
Assets	147,000,000	Reported	OK	us-gaap:Assets
Current Liabilities (if classified balance sheet)	55,000,000	Reported	OK	us-gaap:LiabilitiesCurrent
Noncurrent Liabilities (if classified balance sheet)	52,000,000	Imputed	OK	Noncurrent liabilities not found; imputed based Liabilities - CurrentLiabilities
Liabilities	107,000,000	Imputed	OK	Liabilities not found; imputed based LiabilitiesAndEquity - (CommitmentsAndContingencies + TemporaryEquity + Equity)
Commitments and Contingencies	0	Reported		us-gaap:CommitmentsAndContingencies
Temporary Equity	0	Not found		
Equity Attributable to Parent	36,000,000	Reported	OK	us-gaap:StockholdersEquity
Equity Attributable to Noncontrolling Interest	4,000,000	Reported	OK	us-gaap:MinorityInterest
Equity	40,000,000	Reported	OK	us-gaap:StockholdersEquityIncludingPortionAttributableToNoncontrollingInterest
Liabilities and Equity	147,000,000	Reported	OK	us-gaap:LiabilitiesAndStockholdersEquity
Income Statement				
Multi-step				
Revenues (single-step alternative)	10,000,000	Reported		us-gaap:Revenues
Costs of Revenues (single-step alternative)	4,000,000	Reported		us-gaap:CostOfRevenue
Operating Expenses (single-step alternative)	1,850,000	Reported		us-gaap:OperatingExpenses
Costs and Expenses (single-step alternative)	5,850,000	Imputed	OK	CostsAndExpenses = CostOfRevenue + OperatingExpenses
Other Operating Income (Loss) (single-step alternative)	0	Imputed		OtherOperatingIncome = OperatingIncomeLoss - (GrossProfit - OperatingExpenses)
Operating Income (Loss) (Single-step alternative)	4,150,000	Reported	OK	us-gaap:OperatingIncomeLoss
Revenues (multi-step alternative)	10,000,000	Reported	OK	us-gaap:Revenues
Costs of Revenue (multi-step alternative)	4,000,000	Reported	OK	us-gaap:CostOfRevenue

And imagine that an analyst desired to compare that economic entity against several other economic entities which reported exactly the same facts explicitly or that each of the unreported facts could be safely and reliably imputed using well established relations between explicitly reported facts.

And so imagine that you had the following set of economic entities which some analyst desired to compare and all of the facts which were explicitly provided or safely and reliability imputed as is shown below:



DIGITAL FINANCIAL REPORTING (DRAFT VERSION .96)

	B	C	D	E	F	G	H	I	J	K
Link to XBRL Instance:		Go to XBRL Instance								
Link to XBRL Cloud Viewer:		Go to XBRL Cloud Viewer								
General Information										
Entity Registrant Name	Federal Home Loan Bank of Cincinnati	Federal Home Loan Bank of Dallas	Federal Home Loan Bank of Des Moines	Federal Home Loan Bank of Indianapolis	Federal Home Loan Bank of New York	Federal Home Loan Bank of Pittsburgh	FEDERAL HOME LOAN BANK OF SAN FRANCISCO	Federal Home Loan Bank of Seattle	Federal Home Loan Bank of Topeka	
CIK	0001326771	0001331757	0001325814	000131754	0001329842	0001330399	0001329844	0001329701	0001325878	
Entity Filer Category	Non-accelerated Filer	Non-accelerated Filer	Non-accelerated Filer	Non-accelerated Filer	Non-accelerated Filer	Non-accelerated Filer	Non-accelerated Filer	Non-accelerated Filer	Non-accelerated Filer	Non-accelerated Filer
Trading Symbol	Not provided	Not provided	Not provided	Not provided	Not provided	Not provided	Not provided	Not provided	Not provided	Not provided
Fiscal Year End	-12-31	-12-31	-12-31	-12-31	-12-31	-12-31	-12-31	-12-31	-12-31	-12-31
Fiscal Year	2011	2011	2011	2011	2011	2011	2011	2011	2011	2011
Fiscal Period	FY	FY	Q4	FY	FY	FY	FY	Q4	FY	FY
Document Type	10-K	10-K	10-K	10-K	10-K	10-K	10-K	10-K	10-K	10-K
Balance Sheet Date	2011-12-31	2011-12-31	2011-12-31	2011-12-31	2011-12-31	2011-12-31	2011-12-31	2011-12-31	2011-12-31	2011-12-31
Income Statement Start Period (Year to Date)	2011-01-01	2011-01-01	2011-01-01	2011-01-01	2011-01-01	2011-01-01	2011-01-01	2011-01-01	2011-01-01	2011-01-01
Balance Sheet										
	<i>Unclassified</i>	<i>Unclassified</i>	<i>Unclassified</i>	<i>Unclassified</i>	<i>Unclassified</i>	<i>Unclassified</i>	<i>Unclassified</i>	<i>Unclassified</i>	<i>Unclassified</i>	<i>Unclassified</i>
Assets	60,396,531,000	33,769,967,000	48,733,313,000	40,375,490,000	97,662,340,000	33,994,286,000	113,552,000,000	40,184,467,000	33,190,182,000	
Liabilities	56,837,424,000	32,065,132,000	45,920,899,000	38,426,302,000	92,615,929,000	48,331,448,000	108,847,000,000	38,897,964,000	31,488,735,000	
Commitments and Contingencies	0	0	0	0	0	0	0	0	0	
Temporary Equity	0	0	0	0	0	0	0	0	0	
Equity	3,559,107,000	1,704,835,000	2,812,414,000	1,947,188,000	5,046,411,000	3,662,838,000	4,705,000,000	1,286,503,000	1,701,447,000	
Liabilities and Equity	60,396,531,000	33,769,967,000	48,733,313,000	40,375,490,000	97,662,340,000	51,994,286,000	113,552,000,000	40,184,467,000	33,190,182,000	
Income Statement										
	<i>Single-step</i>	<i>Single-step</i>	<i>Single-step</i>	<i>Single-step</i>	<i>Single-step</i>	<i>Single-step</i>	<i>Single-step</i>	<i>Single-step</i>	<i>Single-step</i>	<i>Single-step</i>
Revenues (single-step alternative)	1,010,743,000	322,948,000	902,515,000	703,209,000	886,494,000	776,377,000	1,786,000,000	370,054,000	546,487,000	
Operating Income (Loss) (Single-step alternative)	174,831,000	57,645,000	97,613,000	134,799,000	302,623,000	46,478,000	258,000,000	93,380,000	97,759,000	
Nonoperating Income (Loss)	0	0	0	0	0	0	0	0	0	
Interest and Debt Expense	0	0	0	0	0	0	0	0	0	
Nonoperating Income (Loss) + Interest and Debt Expense	0	0	0	0	0	0	0	0	0	
Income (Loss) from Equity Method Investments	0	0	0	0	0	0	0	0	0	
Income (Loss) from Continuing Operations Before Tax	174,831,000	57,645,000	97,613,000	134,799,000	302,623,000	46,478,000	258,000,000	93,380,000	97,759,000	
Income Tax Expense (Benefit)	0	0	0	0	0	0	0	0	0	
Income (Loss) from Continuing Operations After Tax	138,273,000	47,830,000	77,814,000	110,067,000	244,486,000	38,049,000	216,000,000	84,042,000	77,326,000	
Income (Loss) from Discontinued Operations, Net of Tax	0	0	0	0	0	0	0	0	0	
Extraordinary Items, Gain (Loss), Net of Tax	0	0	0	0	0	0	0	0	0	
Net Income (Loss)	138,273,000	47,830,000	77,814,000	110,067,000	244,486,000	38,049,000	216,000,000	84,042,000	77,326,000	
Net Income (Loss) Attributable to Parent	138,273,000	47,830,000	77,814,000	110,067,000	244,486,000	38,049,000	216,000,000	84,042,000	77,326,000	
Net Income (Loss) Attributable to Noncontrolling Interest	0	0	0	0	0	0	0	0	0	
Preferred Stock Dividends and Other Adjustments	0	0	0	0	0	0	0	0	0	
Net Income (Loss) Available to Common Stockholders, Basic	138,273,000	47,830,000	77,814,000	110,067,000	244,486,000	38,049,000	216,000,000	84,042,000	77,326,000	
Statement of Comprehensive Income										
Net Income (Loss)	138,273,000	47,830,000	77,814,000	110,067,000	244,486,000	38,049,000	216,000,000	84,042,000	77,326,000	
Other Comprehensive Income (Loss)	-3,278,000	17,087,000	44,030,000	-23,295,000	0	0	1,050,000,000	56,294,000	-5,169,000	
Comprehensive Income (Loss)	134,995,000	64,917,000	121,844,000	86,772,000	244,486,000	38,049,000	1,266,000,000	140,336,000	72,157,000	

Now, imagine that you sent five different software applications to gather that information from the repository of information which you are using¹⁸⁶. Would you expect the results obtained by each of the five different software applications to be identical?

Of course you would expect the results to be identical. If the results were not identical, that would mean that different software vendors used different information extraction algorithms to extract information from a repository of financial reports. And of course, one would expect different software working against the exact same digital financial reports would yield exactly the same query results.

Prudence dictates that using financial information from a digital financial report not be a guessing game. It is only through conscious effort that the specific control mechanisms can be put in place to realize this intent.

The goal is a system that works safely, reliably, predictably, repeatedly, effectively, and efficiently.

How is that achieved?

17.4. Description and verification are two sides of the same coin

Description of the information within some repository of machine-readable financial information and verification of the consistency of a financial report are two sides of the same coin. In order to make use of reported financial information safely, reliably, and predictably; the information cannot be correct 95%, or 98%, or 99% of the time. The information must be consistent with expectations 100% of the time for automated reuse of information to work. Whenever information is not consistent with expectations, then a human needs to get involved in order to determine the nature of the inconsistency.

¹⁸⁶ I did exactly this comparison, see this blog post, <http://xbri.squarespace.com/journal/2014/9/3/business-professionals-what-does-sec-xbri-financial-filings.html>



When you consider that a digital financial report contains hundreds or perhaps even thousands of reported facts and those facts have relations to other facts; the only way digital financial reporting could work is for machines to also help verify the consistency of financial reports against the description of what is expected.

As of this writing, XBRL-based financial reports submitted by public companies to the SEC were 63.2% consistent with expectations related to a set of 51 fundamental accounting concepts and 22 relations between those concepts¹⁸⁷. Consistency with these basic relations has been improving month after month and eventually all inconsistencies will be resolved. Ultimately, not only 51 facts and 22 relations will be tested for quality but rather tens of thousands of facts and relations between facts will be used to make using financial information reported digitally work safely.

17.5. Financial reporting analysis use cases

These are the general use cases for making use of information reported in XBRL-based public company financial reports provided to the SEC or elsewhere:

- **Analysis of a single report.** Analysis of one financial report from one reporting entity.
- **Time series analysis for a reporting entity.** Two or more financial reports from the same reporting entity.
- **Comparative analysis across reporting entities.** Two or more financial reports from different reporting entities using different subsets of information.
- **Ratio analysis.** An analysis of a single report, a time series analysis, or a comparative analysis using ratios.

17.6. Two approaches to comparing information

In order for a machine such as a computer to compare information, the information must be identifiable by the machine. A machine must be able to identify and then address what information the business user desires to work with. There are two general approaches to addressing information and thus enabling a comparison:

- **Top down or explicit identity/address.** Using a top down approach some explicitly known identity is used to identify some reported fact or a set of facts which someone desires to compare. For example, the name of the fact such as `us-gaap:Assets`, or the name of some table such as `us-gaap:BalanceSheet`, or the name of a disclosure such as `us-gaap:LongTermDebtMaturitiesTextBlock` could be used as the way to identify what is being compared.
- **Bottom up or implicitly derive identity/address.** Using a bottom up approach, the characteristics or concepts contained within the set of a component are used to identify the item one desires to compare. Another term for this approach is prototype theory which we will explain in a moment.

Basically, the easy way identify something is to explicitly give that thing a name and then use that name to identify and then go grab that thing. But if that identifier is

¹⁸⁷ Public Company XBRL-based Digital Financial Report Quality Continues to Improve, <http://xbrl.squarespace.com/journal/2015/5/17/public-company-xbrl-based-digital-financial-report-quality-c.html>



no provided, then one needs to resort to other means of identifying the things you might wish to compare.

17.7. Top down or explicit identity/address comparison

Suppose that you wanted to compare some specific disclosure of two or more public companies that report to the SEC. How would you do that? Say perhaps that you wanted to compare the agricultural policy of each entity¹⁸⁸. Below you can see this comparison for 5 such reporting entities:

Reporting entity #1:

China Ginseng Holdings Inc | 2013 | FY | ★★★★★

Ginseng Crops

The Company uses the full absorption costing method to value its Ginseng crops. Included in crop costs are seeds, labor, applicable overhead including depreciation, and supplies. Common costs are allocated in each period based upon the total number of hectares under cultivation during the period.

The carrying value of the Ginseng crops is reviewed on a regular basis for any impairment in value using management's best estimate as to expected future market values, yields and costs to harvest. Costs accumulated on the acres expected to be harvested during the next fiscal year have been classified as a current asset.

us-gaap:AgriculturePolicyPolicyTextBlock

Reporting entity #2:

FRESH DEL MONTE PRODUCE INC | 2013 | FY | ★★★★★

Growing Crops

Expenditures on pineapple, melon and non-tropical fruit growing crops are valued at the lower of cost or market and are deferred and charged to cost of products sold when the related crop is harvested and sold. The deferred growing costs included in inventories in our Consolidated Balance Sheets consist primarily of land preparation, cultivation, irrigation and fertilization costs. Expenditures related to banana crops are expensed in the year incurred due to the continuous nature of the crop.

us-gaap:AgriculturePolicyPolicyTextBlock

Reporting entity #3:

HOMEFED CORP | 2013 | FY | ★★★★★

Farming Revenues and Expenses – Income from farming related activities at the Rampage property are recognized when grapes are sold, and expenses from farming related activities are recognized when incurred.

us-gaap:AgriculturePolicyPolicyTextBlock

¹⁸⁸ You can run this comparison for yourself here, <http://www.xbrlsite.com/LinkedData/Exemplars/Exemplars3.aspx?DisclosureObjectName=AgriculturePolicies>



Reporting entity #4:

S&W Seed Co | 2013 | FY | ★★★★★

Crop Production Costs

Expenditures on crop production costs are valued at the lower of cost or market and are deferred and charged to cost of products sold when the related crop is harvested and sold. The deferred crop production costs included in the consolidated balance sheets consist primarily of the cost of plants and the transplanting, stand establishment costs, intermediate life irrigation equipment and land amendments and preparation. Crop production costs are estimated to have useful lives of three to five years depending on the crop and nature of the expenditure and are amortized to growing crop inventory each year over the estimated life of the crop.

Components of crop production costs are:

	June 30, 2013	June 30, 2012
Stevia	\$ -	\$ 935,466
Alfalfa seed production	1,497,605	73,031
Alfalfa hay	84,904	46,067
Wheat and triticale	-	43,728
Total crop production costs, net	<u>\$ 1,582,599</u>	<u>\$ 1,098,292</u>

us-gaap:AgriculturePolicyPolicyTextBlock

Reporting entity #5:

TEJON RANCH CO | 2013 | FY | ★★★★★

Vineyards and Orchards

Costs of planting and developing vineyards and orchards are capitalized until the crops become commercially productive. Interest costs and depreciation of irrigation systems and trellis installations during the development stage are also capitalized. Revenues from crops earned during the development stage are netted against development costs. Depreciation commences when the crops become commercially productive.

At the time farm crops are harvested, contracted, and delivered to buyers and revenues can be estimated, revenues are recognized and any related inventoried costs are expensed, which traditionally occurs during the third and fourth quarters of each year. It is not unusual for portions of our almond or pistachio crop to be sold in the year following the harvest. Orchard (almond and pistachio) revenues are based upon the contract settlement price or estimated selling price, whereas vineyard revenues are typically recognized at the contracted selling price. Estimated prices for orchard crops are based upon the quoted estimate of what the final market price will be by marketers and handlers of the orchard crops. These market price estimates are updated through the crop payment cycle as new information is received as to the final settlement price for the crop sold. These estimates are adjusted to actual upon receipt of final payment for the crop. This method of recognizing revenues on the sale of orchard crops is a standard practice within the agribusiness community. Adjustments for differences between original estimates and actual revenues received are recorded during the period in which such amounts become known.

us-gaap:AgriculturePolicyPolicyTextBlock

Notice that each reporting entity used the US GAAP XBRL Taxonomy concept *us-gaap:AgriculturePolicyPolicyTextBlock* to report this information. That concept is directly identifiable using the name of the concept.

Now, suppose you wanted to compare the document and entity information reported by each reporting entity. How would you identify that part of a financial report?

Every reporting entity is required to report a specific set of document and entity information, so it exists in every financial report. We will look at only two reporting entities and that will provide all that we need in order to explain our point¹⁸⁹.

¹⁸⁹ You can run this query for yourself at this URL which provides many different reporting entities, <http://www.xbrlsite.com/LinkedData/Exemplars/Exemplars3.aspx?DisclosureObjectName=DocumentAndEntityInformation>



Reporting entity #1:

Component: (Network and Table)	
Network	00090 - Document - Document And Entity Information (http://www.3dsystems.com/role/DocumentDocumentAndEntityInformation)
Table	(Implied)

Slicers (applies to each fact value in each table cell)

Reporting Entity [Axis]	0000910638 (http://www.sec.gov/CIK)
-------------------------	--

Document And Entity Information [Abstract]	Period [Axis]	
	2012-01-01 - 2012-12-31	2013-02-15
Document And Entity Information [Abstract]		
Document Type	10-K	
Amendment Flag	false	
Document Period End Date	2012-12-31	
Document Fiscal Year Focus	2012	
Document Fiscal Period Focus	FY	
Entity Registrant Name	3D SYSTEMS CORP	
Entity Central Index Key	0000910638	
Current Fiscal Year End Date	--12-31	
Entity Filer Category	Large Accelerated Filer	
Entity Public Float		
Entity Common Stock, Shares Outstanding		61,382,789
Entity Current Reporting Status	Yes	
Entity Voluntary Filers	No	
Entity Well-known Seasoned Issuer	Yes	

Reporting entity #2:

Component: (Network and Table)	
Network	00090 - Document - Document And Entity Information (http://www.accelent.com/2010-09-30/role/DocumentDocumentAndEntityInformation)
Table	(Implied)

Slicers (applies to each fact value in each table cell)

Reporting Entity [Axis]	0001342505 (http://www.sec.gov/CIK)
-------------------------	--

Document And Entity Information [Abstract]	Period [Axis]	
	2011-01-01 - 2011-12-31	2012-03-28
Document And Entity Information [Abstract]		
Document Type	10-K	
Amendment Flag	false	
Document Period End Date	2011-12-31	
Entity Central Index Key	0001342505	
Document Fiscal Year Focus	2011	
Document Fiscal Period Focus	FY	
Entity Registrant Name	ACCELLENT INC	
Current Fiscal Year End Date	--12-31	
Entity Filer Category	Non-accelerated Filer	
Entity Common Stock, Shares Outstanding		1,000
Entity Current Reporting Status	Yes	
Entity Voluntary Filers	No	
Entity Well-known Seasoned Issuer	No	
Entity Public Float		

How would you identify the pieces above as representing what we are referring to as the document and entity information report fragment of the public company financial report? Notice the information used to identify the network circled for each reporting entity. By chance, the network label is exactly the same for these two reporting



entities. However, that cannot be used to identify the report fragment because that label is not required and many other reporting entities do not use that label. The network identifier is different for each reporting entity. So, how would you address the report fragment in order to grab that specific report fragment, the document and entity information, which is required to be reported by every reporting entity?

There are no unique handles at the report fragment or report component level.

Basically, XBRL-based public company financial reports cannot be compared top down because every network is unique for each reporting entity, [Table]s are not required and can be used to identify different report components and are not guaranteed to be unique, and there are no other such "handles" which can be used to grab the pieces one desires to compare.

And so, a top down approach is not possible when trying to compare XBRL-based public company financial reports. Therefore, a bottom up approach needs to be employed.

17.8. Bottom up or implicitly derive identity/address: fundamentals of Prototype Theory

There are two perspectives which can be used to understanding what something is¹⁹⁰:

- Aristotle's definition view perspective was that "A thing is a member of a category if it satisfies the definition of the thing." This is the top down approach.
- The second perspective, prototype theory, is that we can know what something means even if it can't be clearly defined and even if its boundaries cannot be sharply drawn; concepts can be clear without having clear definitions if they're *organized around undisputed examples*, or prototypes, as Eleanor Rosch the inventor of prototype theory calls them.

As an example, one can understand that something is a "chair" by understanding as many properties as possible about the thing you are looking at, looking at the properties of a chair as defined by a prototype (the undisputed example), and then predicting whether the thing you are looking at is a "chair" by comparing the properties you are looking at with the properties of what is known to be a chair.

By contrast, the definitional view "draws sharp lines" whereas the prototype view works because "things can be sort of, kind of, in a category. Prototype theory relies on our implicit understanding and does not assume that we can even make that understanding explicitly.

17.8.1. Issues identifying components within XBRL-based public company financial reports

As we pointed out, XBRL-based public company financial reports provide no top level foundation for comparability, no "handles" as they are sometimes referred to. Two possible candidates for these handles which could serve as a basis for comparison are networks and [Table]s.

¹⁹⁰ This information is inspired by the book *Everything is Miscellaneous: the power of the new digital disorder*, by David Weinberger, chapter 9, pages 173 to 198. That chapter has detailed explanations and reasoning which supports prototype theory.



If you examine the networks of each XBRL-based public company financial report submitted to the SEC you quickly realize that each defines its own networks and no two networks in XBRL-based public company financial reports are the same. This is per SEC XBRL filing rules. A reporting entity does use the same network, in fact reporting entities are required by EFM rules to use the same network identifier, to identify the same component across all their financial reports. But this does not help someone trying to compare two reports of different reporting entities to identify the same thing, such as the document and entity information report fragment, in order to compare them.

That rules out networks as a candidate for providing a basis of comparison.

Another candidate is the [Table]. However the [Table] is ruled out because [Table]s are not guaranteed unique. For example the "Statement [Table]" is used on the balance sheet, income statement, statement of cash flows, and a number of other statements and often also used in disclosures. Other [Table]s are used multiple times within the US GAAP taxonomy and define different sets of information. Finally, [Table]s are not required for every report fragment or component.

17.8.2. Other issues

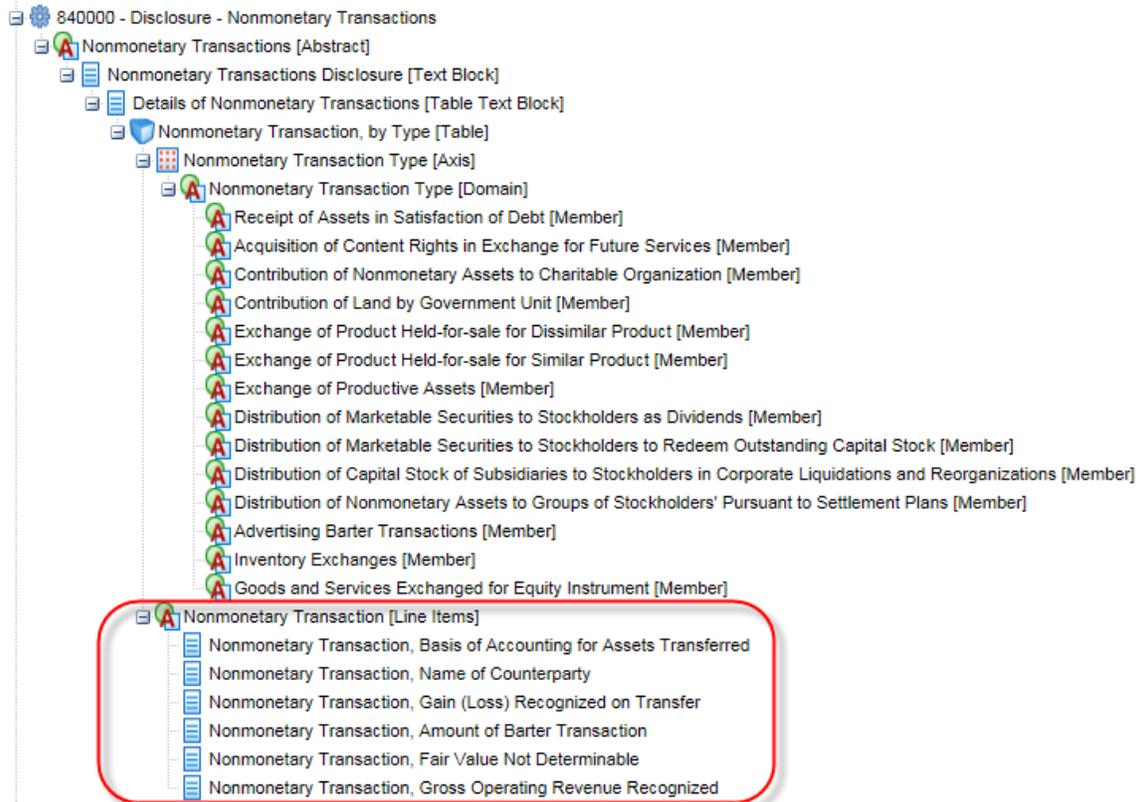
Looking at this situation from the bottom up, there are approximately 15,000 concepts within the US GAAP XBRL Taxonomy, too detailed a perspective for any useful comparison at the individual concept level. There is no middle "level" between the 15,000 concepts which is too granular and too large and the Networks or [Table]s which are too few, most time not identifiable as [Table]s are many times implicit and have no explicit handle to grab onto.

17.8.3. Looking deeper in to XBRL-based public company financial reports

If you look deeper into financial filings you realize some things which are quite useful in grabbing handles to allow for meaningful comparisons of information. For example, consider this small fragment of the US GAAP XBRL Taxonomy which is used to disclose nonmonetary transactions. This is the network 840000 – Disclosure – Nonmonetary Transactions¹⁹¹:

¹⁹¹ You can view this in the US GAAP XBRL Taxonomy here, [http://xbrlview.fasb.org/yeti/resources/yeti-gwt/Yeti.jsp#tax~\(id~156*v~3912\)!net~\(a~3063*I~749\)!lang~\(code~en-us\)!rq~\(rq~32*p~12\)](http://xbrlview.fasb.org/yeti/resources/yeti-gwt/Yeti.jsp#tax~(id~156*v~3912)!net~(a~3063*I~749)!lang~(code~en-us)!rq~(rq~32*p~12))





Look at the fragment of the US GAAP XBRL Taxonomy above which is used to represent the disclosure of nonmonetary transactions and consider the following:

- A reporting must report their nonmonetary transaction disclosure information at two levels: block tagged or detailed tagged. If the information is block tagged, the concept *Details of Nonmonetary Transactions [Table Text Block]* would be used. If the information were detailed tagged a filer would use some combination of concepts within the set of *Nonmonetary Transaction [Line Items]*. Per SEC filing rules, both of these should exist in a financial report as the Level 3 Text Block and the Level 4 Detailed disclosure. The Level 1 Text Block may or may not exist, depending upon where the reporting entity puts this disclosure.
- The concepts within the *Nonmonetary Transaction [Line Items]* are used nowhere else in the US GAAP Taxonomy. As such, if one sees one or more of these concepts on a fact within an XBRL-based report; then one can assume with a high level of confidence that the component which contains one or more of those concepts is highly likely to be the nonmonetary transactions disclosure. As such, you really don't need the *Nonmonetary Transactions [Table]* explicitly identified. However, if that [Table] did exist, it is highly probable that it would be used with the nonmonetary transactions disclosure.
- The [Axis] *Nonmonetary Transaction Type [Axis]* is used in only one place and for one thing in the US GAAP XBRL Taxonomy. As such, that too could be used to identify the disclosure of nonmonetary transactions. Combining both the [Axis] and the concepts increases probability even more.

- Financial reporting rules and logic demand that certain concepts always be present. For example, this component would make little sense without the concept *Nonmonetary Transaction, Amount of Barter Transaction*. In financial reporting rules certain information is always required to be disclosed, certain information is required to be disclosed if a certain event or circumstance occurs during a financial period, certain information is common practice, and certain information is reported at the option of the reporting entity. Some base set of information will always exist, it will always be logical based on financial reporting disclosure requirements and logic.
- If additional required disclosures which expand the base disclosure is presented, if common practice disclosures are provided, or additional optional information is disclosed; it will always exist with that base, supplementing that base disclosure which would always include the concept *Nonmonetary Transaction, Amount of Barter Transaction* or perhaps *Nonmonetary Transaction, Fair Value Not Determinable*.

The point of all this is to say that the pieces of a disclosure provide a highly reliable mechanism for discovering the component you are looking for, whatever someone may have called that component network label or identifier. The only thing which is necessary to use this approach is a prototype of what you call the component you desire to work with and a unique name which is used to identify that piece which serves as the addressable handle¹⁹².

17.8.4. Prototypes for creation and analysis are the same

These prototypes are useful for not only analysis but also for creation of XBRL-based financial reports. The prototypes serve as examples or templates or stencils; whatever term you might like to call them. These prototypes can be hard to see within the US GAAP XBRL Taxonomy because that taxonomy tends to be inconsistent, not uniform, and the appropriate component layer is not clearly identified. However, by reorganizing the US GAAP XBRL Taxonomy into smaller pieces, it is much easier to see the components and the prototypes¹⁹³.

¹⁹² Here is the human-readable prototype, <http://www.xbrlsite.com/2015/fro/us-gaap/html/Disclosures/Detail/Disclosure-421.html>; and here is the machine readable prototype, <http://www.xbrlsite.com/2015/fro/us-gaap/xml/Disclosures/Prototypes/Prototype-421.xml>

¹⁹³ Disclosures, <http://www.xbrlsite.com/2015/fro/us-gaap/html/Disclosures/Detail/index.html>



US GAAP Disclosures (Prototype)

[RDF](#) | [Home](#) | [All](#) | [COMPLETE](#) | [INCOMPLETE](#)
[\[Level 1 Text Blocks\]](#) | [\[Roll Ups\]](#) | [\[Roll Forwards\]](#) | [\[Hierarchys\]](#) | [\[Abstract\]](#)

List of COMPLETED Disclosures

#	Disclosure
1	Accounting Changes and Error Corrections Note [Note Level]
2	Accounting Changes Note [Note Level]
3	Accounts Payable and Accrued Liabilities [Roll Up] (Current and Noncurrent Combined)
4	Accounts Payable and Accrued Liabilities Note [Note Level]
5	Accounts Payable and Accrued Liabilities, Current [Roll Up]
6	Accounts Payable and Accrued Liabilities, Current, Note [Note Level]
7	Accounts Payable and Accrued Liabilities, Noncurrent [Roll Up]
8	Accounts Payable and Accrued Liabilities, Noncurrent, Note [Note Level]
9	Accounts Payable and Other Accrued Liabilities, Current [Roll Up]
10	Accounts Payable, Current [Roll Up]
11	Accounts Receivable, Net [Roll Up] (Unclassified balance sheet)
12	Accounts, Notes, Loans and Financing Receivable [Roll Up]
13	Accrued Income Taxes, Current and Noncurrent [Roll Up]

Disclosure Descriptive Information

Label: Nonmonetary Transactions, by Transaction Type [Hierarchy]
Name: NonmonetaryTransactions
Parent Topic: NonmonetaryTransactions
Documentation: Disclosure of exchanges with other entities that involve principally nonmonetary assets or liabilities or relate to a transfer of nonmonetary assets for which the entity receives no assets in return.
Commentary: Seems like the amount would be required.
Level: Detail
Information model: [Hierarchy]
Completion state: Completed
Status: Test set
Exemplar Viewer: NonmonetaryTransactions
US GAAP XBRL Taxonomy Text Block: us-gaap:DetailsOfNonmonetaryTransactionsTableTextBlock
US GAAP XBRL Taxonomy Network: http://fasb.org/us-gaap/role/disclosure/NonmonetaryTransactions Machine-readable Human-readable

References to Accounting Standards Codification (ASC) for Concepts in Disclosure

Item	Description	Reference
Example of Disclosure: Machine-readable		
PARAMOUNT GOLD & SILVER CORP. 2013 FY ★★★★★		
During the years ended June 30, 2013, 2012 and 2011, the Company entered into certain non-cash activities as follows:		
	2013	2012
Operating and Financing Activities		
From issuance of shares for acquisitions	\$ -	\$ -
From issuance of shares for cashless exercise of options	\$ 113,975	\$ 16,455
From issuance of shares for mineral properties	\$ -	\$ 964,000
Receipt of shares for sale of mineral properties	\$ 4,421,233	\$ -

While a flat, alphabetized list may be useful for some things, what is more interesting is that you can reorganize the components any way you choose rather than being locked into one view. For example, consider this view where disclosures are organized into topic¹⁹⁴.

Disclosures Organized by Topic (Working Prototype)

(Note that this is a prototype. Exemplars are not provided for all disclosures yet. Eventually, Level 3 Text Blocks and a Level 4 Detailed exemplars will be provided for every disclosure.)

#	Label	Level/Category
1	Financial Report	ASC
2	Primary Financial Statements	ASC
3	Balance Sheet	ASC
4	Balance Sheet	Statement Statement
5	Assets [Roll Up]	Detail Block
6	Balance Sheet, Parenthetical, by Legal Entity [Hierarchy]	Detail Block
7	Common Stock, by Class [Hierarchy]	Detail Block
8	Liabilities and Equity [Roll Up]	Detail Block
9	Preferred Stock, by class, Balance Sheet Parenthetical [Hierarchy]	Detail Block
10	Temporary Equity, by Class [Abstract]	Detail Disclosure
11	Treasury Stock, Share Repurchase Programs, by Program and Class of Stock [Hierarchy]	Detail Block
12	Income Statement	ASC
13	Income Statement, by Legal Entity [Roll Up]	Statement Statement
14	Earnings Per Share Summary Information [Hierarchy]	Detail Block
15	Net Income (Loss) Available to Common Stockholders, Basis [Roll Up]	Detail Block
16	Net Income Breakdown [Roll Up]	Detail Block
17	Statement of Income and Comprehensive Income [Roll Up]	Detail Block
18	Cash Flow Statement	ASC
19	Cash Flow Statement [Roll Forward]	Statement Statement
20	Cash Flow, Supplemental Note [Note Level]	NoteLevel Note
21	Cash Flow, Operating Capital [Roll Up]	Detail Block
22	Cash Flow, Supplemental Information [Hierarchy]	Detail Block
23	Statement of Changes in Equity	ASC
24	Statement of Changes in Equity [Roll Forward]	Statement Statement
25	Changes in Stockholders Equity [Roll Forward]	Detail Block
26	Statement of Changes in Equity and Other Comprehensive Income [Roll Forward]	Detail Block
27	Stock Transactions Parenthetical Information [Abstract]	Detail Disclosure
28	Comprehensive Income	ASC
29	Statement of Comprehensive Income	Statement Statement
30	Comprehensive Income (Loss), Net of Tax, Attributable to Parent [Roll Up]	Detail Block
31	Organization, Consolidation, and Presentation of Financial Statements	ASC
32	Organization	ASC
33	Additional Financial Information Note [Note Level]	NoteLevel Note
34	Basis of Presentation and Significant Accounting Policies Note [Note Level]	NoteLevel Note
35	Business Description and Accounting Policies Note [Note Level]	NoteLevel Note
36	Business Description and Basis of Presentation Note [Note Level]	NoteLevel Note
37	Going Concern Note [Note Level]	NoteLevel Note

Label: Balance Sheet

Name: BalanceSheet
Parent Topic: BalanceSheet
Documentation: Economic entity balance sheet (statement of financial position).
Commentary: Missing [Text Block]: has TWO accounting arrangement patterns, Assets [Roll Up] and Liabilities and Equity [Roll Up]. Not sure exactly how to approach this.
Level: Statement
Information model: [Abstract]
Completion state: WIP
Status: Question
US GAAP XBRL Taxonomy Text Block: NO TEXT BLOCK
US GAAP XBRL Taxonomy Network: http://fasb.org/us-gaap/role/statement/StatementOfFinancialPositionClassified

Example Disclosure

Rendering

Component: (Network and Table)

Network	001 - Statement - CONSOLIDATED BALANCE SHEETS (http://www.11gpoenergy.com/role/ConsolidatedBalanceSheet)
Table	Statement [Table]

Slicers (applies to each fact value in each table cell)

Reporting Entity [Axis]	0001408597 (http://www.sec.gov/CIK)
Scenario [Axis]	Scenario, Unspecified [Domain]

Statement [Line Items]	Period [Axis]				
	2011-12-31	2010-12-31	2009-12-31	2008-12-31	2007-12-31
ASSETS					
Current assets:					
Cash	12,895	29,879	4,869,749		
Inventory	323,422	624,739			
Accounts receivable, net	43,906	51,801			
Available for sale securities	940	576,990			
Other current assets	25,478	24,974			

Click entity name to view example [Text Block] or Detailed Disclosure

[11.GPO00.ENERGY.INC](#) Detail | [22nd Century Group, Inc.](#) Detail | [3D SYSTEMS CORP](#) Detail | [3M CO](#) Detail | [3Power Energy Group, Inc.](#) Detail | [4 KIDS ENTERTAINMENT INC](#) Detail | [5NET SOFTWARE INC](#) Detail | [Share International, Inc.](#) Detail | [5VI, Inc.](#) Detail | [808 INC \(DE\)](#) Detail | [ASC United Structures Developing Inc.](#) Detail | [A123 SYSTEMS, INC.](#) Detail | [AARON INC](#) Detail | [AAR CORP](#) Detail | [ABAKAN, INC](#) Detail | [ABAXIS INC](#) Detail | [ABBOTT LABORATORIES](#) Detail | [ABSOLVED INC](#) Detail | [ABRI INDUSTRIES INC \(DE\)](#) Detail | [ABRAXAS PETROLEUM CORP](#) Detail | [ABSOLUTE LIFE SOLUTIONS, INC.](#) Detail | [ABSOLUTE POTENTIAL, INC.](#) Detail | [Acsia Diversified Holdings, Inc.](#) Detail | [ACIACIA RESEARCH CORP](#) Detail | [Aquia Healthcare Company, Inc.](#)

Approximately 1000 disclosures were identified within the US GAAP XBRL Taxonomy. Each disclosure has a prototype which is used to identify and serve as a machine-readable signature for the disclosure.

¹⁹⁴ Disclosures organized by topic, <http://www.xbrlsite.com/LinkedData/Exemplars/Topics.aspx>



17.8.5. Exemplar theory and prototype theory

Prototype theory¹⁹⁵ is one way of identifying something by its components. Another approach is exemplar theory¹⁹⁶. With prototype theory you generally have only one prototype. With exemplar theory you can have multiple prototypes for the same thing¹⁹⁷.

It is not the case that there is only one “undisputed example”, nor does their need to be. For example, there are many different types of balance sheets: classified, unclassified, deposit based operations, insurance based operations, securities based operations, and others for specific industries and financial reporting needs. However, it is not the case that there are an infinite number of balance sheets. Financial information is not random or infinite in nature.

Specific undisputed examples can be created and even cross referenced with additional information. Another way of saying this is that there is no need to have only one undisputed example for any piece of a financial report. Further, this idea applies to each piece of a financial report and to the full set of pieces which an XBRL-based public company financial reports.

17.8.6. Public company XBRL-based financial reports are the ultimate exemplars

Public company XBRL-based financial reports are the ultimate exemplars. The screen shot below shows a partial comparison of the Level 3 Text block and Level 4 Detailed disclosure for the components of property, plant, and equipment across public company XBRL-based financial reports¹⁹⁸:

CIK	Entity/RegistrantName	AccessionNumber	Text Block	Detailed level roll up
0001077800	AccelPath, Inc.	0001376474-12-000350	us-gaap:PropertyPlantAndEquipmentTextBlock	us-gaap:PropertyPlantAndEquipmentNet
0000796343	ADOBE SYSTEMS INC	0000796343-13-000008	us-gaap:PropertyPlantAndEquipmentTextBlock	us-gaap:PropertyPlantAndEquipmentNet
0000098618	ALANCO TECHNOLOGIES INC	0000098618-12-000037	us-gaap:PropertyPlantAndEquipmentTextBlock	us-gaap:PropertyPlantAndEquipmentNet
0001101215	ALLIANCE DATA SYSTEMS CORP	0001101215-13-000051	us-gaap:PropertyPlantAndEquipmentTextBlock	us-gaap:PropertyPlantAndEquipmentNet
0001374535	Altra Holdings, Inc.	0001193125-13-074398	us-gaap:PropertyPlantAndEquipmentTextBlock	us-gaap:PropertyPlantAndEquipmentNet
0000897448	AMARIN CORP PLC/UK	0001193125-13-084191	us-gaap:PropertyPlantAndEquipmentTextBlock	us-gaap:PropertyPlantAndEquipmentNet
0001444310	AMBIKOM HOLDINGS, INC	0001144204-12-062292	us-gaap:PropertyPlantAndEquipmentTextBlock	us-gaap:PropertyPlantAndEquipmentNet
0000928465	AMCON DISTRIBUTING CO	0001047469-12-010255	us-gaap:PropertyPlantAndEquipmentTextBlock	us-gaap:PropertyPlantAndEquipmentNet
0000880807	AMERICAN SUPERCONDUCTOR CORP /DE/	0001193125-12-261967	us-gaap:PropertyPlantAndEquipmentTextBlock	us-gaap:PropertyPlantAndEquipmentNet
0000006314	ANAREN INC	0001437749-12-008058	anren:ScheduleOfPropertyPlantAndEquipmentTableTextBlock	us-gaap:PropertyPlantAndEquipmentNet
0001081078	API Technologies Corp.	0001193125-13-051966	us-gaap:PropertyPlantAndEquipmentTextBlock	us-gaap:PropertyPlantAndEquipmentNet

The above comparison was created manually in order to discover the prototype. Once the prototype is created, then the prototype can be used in order to discover other disclosures which follow this same pattern.

This process can be useful for two purposes. First, it helps discover the prototype and exemplars of good disclosures. Second, it points out either inconsistencies if XBRL-based financial reports or important subtleties and nuances which could really be other different disclosures. Observing disclosures and discussions by accounting professionals will yield the answer to the question of which it is: an inconsistency or a subtlety/nuance.

The screen shot below shows an organization of the disclosures, prototypes, and exemplars in human-readable form. But realize that the same information is

¹⁹⁵ Prototype theory, http://en.wikipedia.org/wiki/Prototype_theory

¹⁹⁶ Exemplar theories of concept learning, http://en.wikipedia.org/wiki/Concept_learning#Exemplar_theories_of_concept_learning

¹⁹⁷ Prototype and Exemplar Theories of Concepts, <http://courses.umass.edu/psy315/prototype.html>

¹⁹⁸ See the analysis of the disclosure PropertyPlantAndEquipmentNetByTypeRollUp, <http://www.xbrlsite.com/2014/Reference/PropertyPlantAndEquipmentNetByTypeRollUp.pdf>



available in machine-readable form. This machine-readable information servers as metadata to both describe and verify consistency against disclosures.

Disclosures Organized by Topic (Working Prototype)

(Note that this is a prototype. Exemplars are not provided for all disclosures yet. Eventually, Level 3 Text Blocks and a Level 4 Detailed exemplars will be provided for every disclosure.)

284	Research Expense and Other Assets, noncurrent [Roll Up]	Detail Block
281	Preproduction Costs Related to Long-Term Supply Arrangements [Hierarchy]	Detail Block
282	Property, Plant, and Equipment	ASC
283	Property, Plant and Equipment and Intangible Assets Note [Note Level]	NoteLevel Note
284	Property, Plant and Equipment Note [Note Level]	NoteLevel Note
285	Accumulated Depreciation, Depletion and Amortization of Property, Plant and Equipment [Roll Forward]	Detail Block
286	Assets Disposed of by Method Other than Sale, in Period of Disposition, by Asset Name [Hierarchy]	Detail Block
287	Assets Held-for-sale, Reason for Changing Plan to Sell [Hierarchy]	Detail Block
288	Cost of Goods and Services Sold, Depreciation and Amortization [Roll Up]	Detail Block
289	Gain (Loss) on Sale of Property Plant Equipment [Roll Up]	Detail Block
290	Impaired Assets to be Disposed of by Method Other than Sale [Hierarchy]	Detail Block
291	Impaired Long-Lived Assets Held and Used, by Asset Type [Hierarchy]	Detail Block
292	Impairment or Disposal of Tangible Assets [Hierarchy]	Detail Block
293	Long-Lived Assets Held-for-sale, by Asset Type [Hierarchy]	Detail Block
294	Long-Lived Assets to be Abandoned, by Asset Name [Hierarchy]	Detail Block
295	Property, Plant and Equipment [Roll Forward]	Detail Block
296	Property, Plant and Equipment Impairment or Disposal [Hierarchy]	Detail Block
297	Property, Plant and Equipment Income Statement Disclosure [Hierarchy]	Detail Block
298	Property, Plant and Equipment, Net, by Type [Roll Up]	Detail Block
299	Property, Plant and Equipment, Significant Acquisitions and Disposals [Table Text Block]	Detail Disclosure
300	Tangible Asset Impairment Charges [Roll Up]	Detail Block
301	Intangibles-Goodwill and Other	ASC
302	Asset Impairment Charges Note [Note Level]	NoteLevel Note
303	Goodwill Note [Note Level]	NoteLevel Note
304	Intangible Assets and Goodwill Note [Note Level]	NoteLevel Note
305	Intangible Assets Note [Note Level]	NoteLevel Note
306	Finite-lived Intangible Assets, Estimated Useful Lives, by Major Class [Hierarchy]	Detail Block
307	Finite-lived Intangible Assets, Future Amortization Expense [Hierarchy]	Detail Block
308	Goodwill [Roll Forward]	Detail Block
309	Goodwill, by Business Segment [Hierarchy]	Detail Block
310	Goodwill, Impaired [Hierarchy]	Detail Block
311	Goodwill, Impaired, Accumulated Impairment Loss [Roll Up]	Detail Block
312	Goodwill, Not Allocated [Hierarchy]	Detail Block
313	Indefinite-lived Intangible Assets, by Major Class [Hierarchy]	Detail Block
314	Indefinite-lived Intangible Assets, Acquired, by Major Class [Hierarchy]	Detail Block
315	Intangible Assets and Goodwill [Table Text Block]	Detail Disclosure
316	Intangible Assets, Finite-lived, Acquired, by Major Class [Hierarchy]	Detail Block
317	Intangible Assets, Finite-lived, Amortization Expense [Table Text Block]	Detail Disclosure
318	Intangible Assets, Finite-lived, Future Amortization Expense [Roll Up]	Detail Block
319	Intangible Assets, Finite-lived, Net, by Major Class [Roll Up]	Detail Block
320	Intangible Assets, Impaired, by Major Class [Hierarchy]	Detail Block

Example Disclosure

Atkore International Holdings Inc. | 2012 | FY | *****

	September 28, 2012	September 30, 2011
Land	\$ 18	\$ 19
Buildings and related improvements	120	110
Machinery and equipment	187	162
Leasehold improvements	3	3
Construction in progress	14	38
Property, plant and equipment	342	332
Accumulated depreciation	(59)	(24)

Click entity name to view example [Text Block] or Detailed Disclosure

AccelPath, Inc. Detail | AccelPath, Inc. TextBlock | ACTIVE NETWORK, INC. Detail | ACTIVE NETWORK, INC. TextBlock | ADOBE SYSTEMS, INC. Detail | ADOBE SYSTEMS, INC. TextBlock | ALANCO TECHNOLOGIES, INC. Detail | ALANCO TECHNOLOGIES, INC. TextBlock | ALLIANCE DATA SYSTEMS CORP TextBlock | ALLIANCE DATA SYSTEMS CORP Detail | Altra Holdings, Inc. Detail | Altra Holdings, Inc. TextBlock | AMARIN CORP PLC/UK TextBlock | AMARIN CORP PLC/UK Detail | AMBICOM HOLDINGS, INC. Detail | AMBICOM HOLDINGS, INC. TextBlock | AMCON DISTRIBUTING CO TextBlock | AMCON DISTRIBUTING CO Detail | AMERICAN SUPERCONDUCTOR CORP (DE) Detail | AMERICAN SUPERCONDUCTOR CORP (DE) TextBlock | AMAREN, INC. Detail | AMAREN, INC. TextBlock | API Technologies Corp. TextBlock | API Technologies Corp. Detail | APPLE, INC. Detail | Assent Capital Group, Inc. TextBlock | Assent Capital Group, Inc. Detail | Assent Software Group Holdings Ltd. TextBlock | Assent Software Group Holdings Ltd. Detail | ATHENAHEALTH, INC. TextBlock | ATHENAHEALTH, INC. Detail | Atkore International Holdings Inc. Detail | Atkore International Holdings Inc. TextBlock | ATMI, INC. Detail | ATMI, INC. TextBlock | AUTORTEL, INC. TextBlock | AUTORTEL, INC. Detail | AUTODESK, INC. Detail | AUTODESK, INC. TextBlock | BOEING CO TextBlock | BOEING CO Detail | CATERPILLAR, INC. TextBlock | CATERPILLAR, INC. Detail | CHEVRON CORP Detail | CHEVRON CORP TextBlock | COCA-COLA CO Detail | COCA-COLA CO TextBlock | DUPONT E I DE NEMOURS & CO Detail | DUPONT E I DE NEMOURS & CO TextBlock | EXXON MOBIL CORP Detail | EXXON MOBIL CORP TextBlock | GENERAL ELECTRIC CO TextBlock | GENERAL ELECTRIC CO Detail | HOME DEPOT, INC. TextBlock | HOME DEPOT, INC. Detail | INTEL CORP TextBlock | INTEL CORP Detail | INTERNATIONAL BUSINESS MACHINES CORP Detail | INTERNATIONAL BUSINESS MACHINES CORP TextBlock | JOHNSON & JOHNSON Detail | JOHNSON & JOHNSON TextBlock | MCDONALDS CORP Detail | MCDONALDS CORP TextBlock | MICROSOFT CORP Detail | MICROSOFT CORP TextBlock | OUTDOOR CHANNEL HOLDINGS, INC. TextBlock | OUTDOOR CHANNEL HOLDINGS, INC. Detail | PFIZER, INC. Detail | PFIZER, INC. TextBlock | PROCTER & GAMBLE Co Detail | PROCTER & GAMBLE Co TextBlock | UNITEDHEALTH GROUP, INC. TextBlock | UNITEDHEALTH GROUP, INC. Detail | VERIZON COMMUNICATIONS, INC. TextBlock | VERIZON COMMUNICATIONS, INC. Detail | VISA, INC. TextBlock | VISA, INC. Detail | WAL MART STORES, INC. TextBlock | WAL MART STORES, INC. Detail

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17.9. Commercially available analysis products

There are many different commercial software applications which make use of XBRL-based financial information reported by public companies to the SEC and available from the EDGAR system. These software applications take different approaches and different things can be learned from different applications.

Few of these applications leverage all that there is to leverage from the structured nature of the information. In no particular order, below are three software tools which are worth exploring in detail.

17.9.1. 28msec SECXBRL.info

As mentioned earlier, 28msec¹⁹⁹ provides a free repository of public company financial information reported by public companies to the SEC via its SECXBRL.info repository²⁰⁰. Financial information is available for the DOW 30 companies with no sign up at all. You can sign up for free and get access to all reported information. An API is provided. For those willing to roll up their sleeves and get their hands a little dirty, there is a lot that can be learned about where digital financial reporting and more generally digital business reporting is going.

17.9.2. XBRL Cloud

XBRL Cloud mainly focuses on validation services for public companies that provide XBRL-based financial reports to the SEC²⁰¹. However, XBRL Cloud offers an API also.

¹⁹⁹ 28msec, <http://www.28.io/>

²⁰⁰ SECXBRL.info, <http://app.secxbri.info/>

²⁰¹ XBRL Cloud EDGAR Dashboard, <https://edgardashboard.xbrlcloud.com/edgar-dashboard/>



That API, the EDGAR Report Information Web Service²⁰², is unfortunately not publically available. But, the API is rather inexpensive. If you are serious about learning about digital financial reporting, paying for the API is worth the price.

XBRL Cloud provides some of the best renderings of XBRL-based information.

17.9.3. FinDynamics XBRL Analyst

XBRL Analyst is described as “XBRLAnalyst delivers real-time financial data to Excel” by its creator FinDynamics²⁰³. XBRLAnalyst is an Excel plugin. A free trial is available which allows you to explore the software before you purchase it. An API is also available.

²⁰² XBRL Cloud Edgar Report Information Web Service, <https://www.xbrlcloud.com/home/edgar-report-information/eridev.html>

²⁰³ FinDynamics, <https://findynamics.com/>

