1. Understanding Concept Arrangement Patterns, Member Arrangement Patterns, and Report Fragment Arrangement Patterns

A list of report elements, by itself, is not sufficient to describe a model for a digital financial report. A digital financial report contains both things that exist within that model (things that exist, report elements) and relationships between those report elements (how they interact with one another).

In the prior section, Financial Report Model Elements, we discussed the elements which make up the digital financial report model. In this section we discuss the relations between those report elements in additional detail.

1.1. Overview or relations between report elements

We have discussed model structure relations, pointing out that there are specific categories of report elements that work together to make up a report and that there are specific relations between Networks, Tables, Axes, Members, Line Items, Abstracts and Concepts. This section describes specifically how those report elements can be related to one another to convey meaning.

There are exactly three types of structural relationships within an XBRL-based conceptual model for a digital financial report:

1. Some set of Concepts can be organized within a [Line Items]
2. Some set of [Member]s can be organized within an [Axis].
3. Some set of Networks, Tables and Blocks (report fragments) can be organized within a report.

These report elements can be related:

- **Concept arrangement patterns**: relations between Concepts within [Line Items]
- **Member arrangement patterns**: relations between the [Member]s of an [Axis]
- **Report fragment ordering/sequencing patterns**: relations between financial report fragments (Networks, Tables, Components, Blocks) within a report.

All of these types of relations are important and we cover each in this section.

1.2. Understanding the utility and leverage of patterns

The world is full of patterns and information technology engineers and architects leverage these patterns when trying to get a computer to do something effectively and efficiently for humans. Understanding the patterns which exist can help make both building and using software easier.

Business reports, including financial reports, have patterns. Another way of saying this is that financial reports are not random. There are not an infinite number of patterns in financial reporting.

Business Reporting Use Cases, introduces a set of approximately 30 financial reporting use cases collected over a number of years. That set of 30 business use cases was condensed from many, many different financial reporting use cases examined in order to understand how to model financial information using XBRL. These business use cases were also used within the USFRTF Patterns Guide which was created in order to help understand how to construct the US GAAP XBRL Taxonomy.

These 30 business use cases were distilled down further, basically to their essence. This distilled version is referred to here as a *Concept Arrangement Patterns* and *Member Arrangement Patterns*. Basically, every financial reporting use case follows one or a combination of these patterns. While it is hard to say if these patterns will cover 100% of all financial reporting use cases, it is hard to dispute that any of these 9 patterns. If some pattern is deemed missing, that pattern can be added to the inventory of patterns.

The US GAAP Taxonomy Architecture refers to these patterns as *compact pattern definitions* and documents a number of these patterns in what it refers to as style guides. These style guides were never released publicly but they are referred to in the US GAAP Taxonomy Architecture. Everything within the US GAAP Taxonomy fits into one or a combination of these patterns.

1.3. Concept arrangement patterns

Remember that a concept arrangement pattern explains how some set of Concepts is represented within a [Line Items]. The following is a summary of the identified financial reporting related concept arrangement patterns.

1.3.1.Hierarchy

A **hierarchy** (or set) concept arrangement pattern denotes a hierarchy of concepts with no numeric relations. If no numeric relations exist, then the concept arrangement pattern of the report fragment is a hierarchy. Basically, anything can be represented as a hierarchy. It is the addition of additional relations, typically mathematical computations, which turns a hierarchy into some other concept arrangement pattern.

Component: (Network and Table)	
Network	1001 - Document - **Document and Entity Information**
Table	Statement [Table]

Reporting Entity [Axis]	0000789019 http://www.sec.gov/CIK
Legal Entity [Axis]	Entity [Domain]

Statement [Line Items]	2016-07-25	2015-07-01/2016-06-30	2015-12-31
	Period [Axis]		
Document Type		10-K	
Amendment Flag		false	
Document Period End Date		2016-06-30	
Document Fiscal Year Focus		2016	
Document Fiscal Period Focus		FY	
Trading Symbol		MSFT	
Entity Registrant Name		MICROSOFT CORPORATION	
Entity Central Index Key		0000789019	
Current Fiscal Year End Date		--06-30	
Entity Well-known Seasoned Issuer		Yes	
Entity Current Reporting Status		Yes	
Entity Voluntary Filers		No	
Entity Filer Category		Large Accelerated Filer	
Entity Common Stock, Par Value Per Share		0	
Entity Common Stock, Shares Outstanding	7,792,515,573		
Entity Public Float			424,500,000,000
I.R.S. Employer Identification No.		911144442	

1.3.2. Roll up

A **roll up** concept arrangement pattern represents a total, or roll up, and some set of other Concepts that aggregate to that total. This concept arrangement pattern is commonly referred to a "roll up", or the equation A + B + n = Total. All concepts involved in this concept arrangement pattern have the same set of characteristics and all must be numeric and of the same period type.

Component: (Network and Table)	
Network	1073 - Disclosure - **Components of Inventories (Detail)**
Table	Inventory, Current [Table]

Reporting Entity [Axis]	0000789019 http://www.sec.gov/CIK
Legal Entity [Axis]	Entity [Domain]

Inventory [Line Items]	2016-06-30	2015-06-30
	Period [Axis]	
Raw materials	612,000,000	1,100,000,000
Work in process	158,000,000	202,000,000
Finished goods	1,481,000,000	1,600,000,000
Total	2,251,000,000	2,902,000,000

1.3.3. Roll forward

A **roll forward** concept arrangement pattern reconciles the balance of a concept between two points in time. This concept arrangement pattern is commonly referred to a "roll forward" or "movement analysis" or the equation: beginning balance +

additions – subtractions = ending balance. In this equation the Period [Axis] is as of two different points in time and the changes (additions/subtractions) occur during the period between those two points in time.

Component: (Network and Table)	
Network	1116 - Disclosure - **Stock Plan Activity (Detail)**
Table	Schedule of Share-based Compensation Arrangements by Share-based Payment Award [Table]

Reporting Entity [Axis]	0000789019 http://www.sec.gov/CIK
Award Type [Axis]	Stock Awards
Legal Entity [Axis]	Entity [Domain]

Shares	Period [Axis] 2015-07-01/2016-06-30
Shares	
Nonvested balance, beginning of year	216,000,000
Granted	83,000,000
Vested	(85,000,000)
Forfeited	(20,000,000)
Nonvested balance, end of year	194,000,000

1.3.4.Roll forward info

A **roll forward info** concept arrangement pattern looks like a roll forward, but is not really a roll forward. While a roll forward reconciles the balance of a concept between two points in time; the roll forward info is really just a hierarchy which shows a beginning and ending balance. A roll forward info concept arrangement pattern is generally shown with a roll forward.

Component: (Network and Table)	
Network	1116 - Disclosure - **Stock Plan Activity (Detail)**
Table	Schedule of Share-based Compensation Arrangements by Share-based Payment Award [Table]

Reporting Entity [Axis]	0000789019 http://www.sec.gov/CIK
Award Type [Axis]	Stock Awards
Legal Entity [Axis]	Entity [Domain]

Weighted Average Grant-Date Fair Value	Period [Axis] 2015-07-01/2016-06-30
Weighted Average Grant-Date Fair Value	
Nonvested balance, beginning of year	32.72
Granted	41.51
Vested	30.98
Forfeited	35.93
Nonvested balance, end of year	36.92

1.3.5. Adjustment

An **adjustment** concept arrangement pattern reconciles an originally stated balance to a restated balance, the adjustment being the total change, between two different report dates. An adjustment is similar to a roll forward in that it is a reconciliation, however rather than the period [Axis] changing; it is the *Report Date [Axis]* which changes: originally reported balance + adjustment = restated balance.

Component: (Network and Table)	
Network	50000 - Document - **Prior Period Adjustments**
Table	Prior Period Adjustments [Table]

Reporting Entity [Axis]	SAMP http://www.SampleCompany.com
Legal Entity [Axis]	Consolidated Entity [Member]

Prior Period Adjustments [Line Items]	Report Date [Axis]	Period [Axis] 2009-12-31
Prior Period Adjustments to Retained Earnings [Adjustment]		
Retained Earnings (Accumulated Losses), Origionally Stated	Reported March 21, 2010 [Member]	4,000
Prior Period Adjustments, Period Increase (Decrease), Total [Roll Up]		
Changes in Accounting Policy	Reported March 18, 2011 [Member]	3,000
Correction of an Error	Reported March 18, 2011 [Member]	(1,000)
Prior Period Adjustments, Period Increase (Decrease), Total	Reported March 18, 2011 [Member]	2,000
Retained Earnings (Accumulated Losses), Restated	Reported March 18, 2011 [Member]	6,000

1.3.6. Variance

A **variance** concept arrangement pattern reconciles some reporting scenario with another reporting scenario, the variance between reporting scenarios being the variance or changes. For example, a sales analysis which reconciles the concept sales for the reporting scenarios of actual and budgeted is a variance. The equation is: actual – budget = variance. Note that it could be best in certain reporting situations to represent the actual member as the dimension default.

Component: (Network and Table)	
Network	60000 - Document - **Variance Analysis**
Table	Variance Analysis [Table]

Reporting Entity [Axis]	SAMP http://www.SampleCompany.com
Legal Entity [Axis]	Consolidated Entity [Member]

	Period [Axis] / Reporting Scenario [Axis]		
	2010-01-01/2010-12-31		
Variance Analysis [Line Items]	Actual [Member]	Budgeted [Member]	Variance [Member]
Variance Analysis [Hierarchy]			
Sales	6,000	5,000	1,000
Cost of Goods Sold	4,000	3,000	1,000
Contribution Margin	1,000	2,000	(1,000)
Distribution Costs	1,000	1,000	0

1.3.7. Complex computation

A **complex computation** concept arrangement pattern can be thought of as a hierarchy plus a set of commutations between different concepts within that hierarchy which are challenging to model as the parent/child relations of a graph. The type of computations can vary significantly, thus the challenging in modelling. For example, the computation of earnings per share is a complex computation.

Component: (Network and Table)	
Network	70000 - Document - **Earnings Per Share Components**
Table	Earnings Per Share Components [Table]

Reporting Entity [Axis]	SAMP http://www.SampleCompany.com	
Legal Entity [Axis]	Consolidated Entity [Member]	
	Period [Axis]	
Earnings Per Share Components [Line Items]	2010-01-01/2010-12-31	2009-01-01/2009-12-31
Earnings Per Share Components [Hierarchy]		
Net Income (Loss)	10,000,000	20,000,000
Weighted Average Common Shares	100,000,000	100,000,000
Earnings Per Share	0.10	0.20

1.3.8. Text block

A **text block** concept arrangement pattern is an concept arrangement pattern which contains, by definition, only one concept and that concept expresses what amounts to a narrative or prose as escaped HTML within that one concept. For example, the narrative associated with a set of accounting policies expressed as a list or a table presentation format is a text block. As there is only one concept, there can be no relations within the concept arrangement pattern.

Component: (Network and Table)	
Network	1039 - Disclosure - **INVENTORIES (Tables)**
Table	Statement [Table]

Reporting Entity [Axis]	0000789019 http://www.sec.gov/CIK
Legal Entity [Axis]	Entity [Domain]
Period [Axis]	2015-07-01/2016-06-30
	Drop Column Fields Here
Statement [Line Items]	Fact Value
Components of Inventories	The components of inventories were as follows:

(In millions)

June 30,	**2016**	**2015**
Raw materials	**$ 612**	$ 1,100
Work in process	**158**	202
Finished goods	**1,481**	1,600
Total	**$ 2,251**	$ 2,902

1.3.9. Grid (not really a pattern)

A **grid** concept arrangement pattern is a pseudo metapattern which uses the presentation characteristics of the columns and rows of a table to model information. Because the grid models presentation information and not business semantics, it cannot be considered a metapattern. However, the grid is included in this list because the US GAAP Taxonomy uses a grid concept arrangement pattern to model the statement of changes in equity.

Component: (Network and Table)	
Network	90000 - Document - **Statement of Changes in Equity**
Table	Statement of Changes in Equity [Table]

Reporting Entity [Axis]	SAMP http://www.SampleCompany.com
Legal Entity [Axis]	Consolidated Entity [Member]

Period [Axis] | Equity Component [Axis]

Statement of Changes in Equity [Line Ite...	2010-01-01/2010-12-31			
	Common Stock [Member]	Additional Paid-in Capital [Member]	Retained Earnings (Accumulated Deficit) [Member]	Equity [Member]
Statement of Changes in Equity [Grid]				
Equity, Beginning Balance	150,000	50,000	200,000	400,000
Net Income (Loss)			200,000	200,000
Dividends			(100,000)	(100,000)
Common Stock Issued	25,000	25,000		50,000
Equity, En	175,000	75,000	300,000	550,000

1.3.10. Compound fact (not really a pattern)

A **compound fact** concept arrangement pattern is characterized by the fact that some set of other concepts or some other concept arrangement pattern exists for a set of characteristics expressed by one or more [Axis]. For example, the salary information for the directors of an entity is a compound fact. The salary information is made up of salary, bonuses, director fees which roll up into total salary and this set of compound facts can be expressed for any number of directors, the director being the characteristic or axis of the compound fact.

Component: (Network and Table)	
Network	50000 - Document - **Director Compensation**
Table	Director Compensation [Table]

Reporting Entity [Axis]	SAMP http://www.SampleCompany.com
Period [Axis]	2010-01-01/2010-12-31
Legal Entity [Axis]	Consolidated Entity [Member]

Director [Axis]

Director Compensation [Line Items]	John Doe [Member]	Jane Doe [Member]	Directors, All [Member]
Director [Hierarchy]			
Director, Salary	1,000	1,000	2,000
Director, Bonuses	1,000	1,000	2,000
Director, Fees	1,000	1,000	2,000
Director, Options Granted, at Fair Value	1,000	1,000	2,000

1.4. Member arrangement patterns

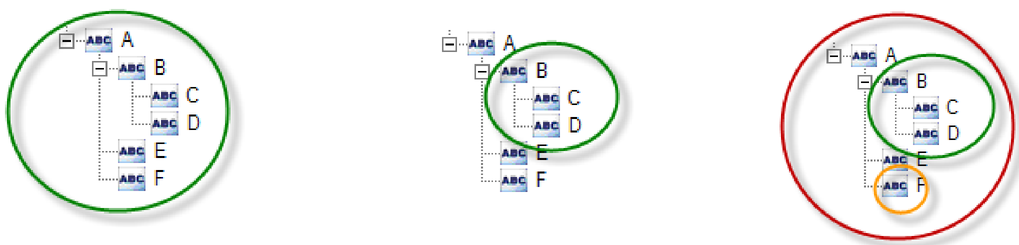
Member arrangement patterns explain how a set of [Member]s relate to one another within an [Axis].

Before we explain the member arrangement patterns, we need to clarify some terminology which is often confused or used incorrectly.

A **domain** is a cohesive set of members. Something important to note is that in the US GAAP XBRL Taxonomy the way [Domain] is used is different than the standard definition of domain (i.e. a set of members).

The way [Domain] is used in the US GAAP XBRL Taxonomy is to define the root [Member] of a set of [Member]s that make up a domain.

Consider the more general example:



Assume that the above trees are the [Member]s of an [Axis]. In the diagram, each circle represents a domain. In the graphic on the left, A is the root member of a domain with members A, B, C, D, F, E and F. The middle graphic, the circle shows a domain with the members B, C and D. The graphic on the right shows three different domains; the RED circle from the graphic on the right, the GREEN circle from the graphic in the middle, and another domain which has only one member F.

Domains have partitions. A partition is collectively exhaustive and mutually exclusive set of members within a domain. Partitions do not overlap. Give a set X, a partition is a division of X into non-overlapping and non-empty "parts" or "blocks" or "cells" that cover all of X. More formally, these "cells" are both collectively exhaustive and mutually exclusive with respect to the set being partitioned. A domain always has at least one partition and may have many partitions.

While above we provided a very basic example to help you become familiar with the ideas which we want to discuss, aggregation is a bit more complex. Here is the spectrum of domain partition or member aggregation models:

- **Flat non-aggregating set (Is-a)**: A flat non-aggregating set is a set which is (a) incomplete so it can never aggregate or (b) a set which describes non-numeric concepts which could never aggregate or (c) a set of numeric concepts which could be aggregated but the aggregated value is illogical or never used. An example of a non-aggregating set is a subsequent events disclosure which is comprised of one or more subsequent events. Subsequent events are never aggregated; they are simply a list of events that a non-aggregating set describes.
- **Complete flat aggregating set (Whole-part)**: A complete flat aggregating set is a set which is both complete and characterizes a numeric concept which can be mathematically aggregated. A complete flat set is semantically equivalent to a [Roll Up] concept arrangement pattern. The aggregation scheme is that the members of the list aggregate to the parent of those members. A complete flat set has no subdomains. A value of all classes of

property, plant and equipment and the value of each class of property, plant and equipment is an example of a complete flat aggregating set.

- **Complete hierarchical aggregating set (Whole-part)**: A complete hierarchical aggregating set is a set comprised of a collection of complete flat sets, basically a domain which has one or more subdomains. A business rule will always describe the aggregation scheme. A breakdown of revenues by geographic area whereby the domain of geographic areas has a hierarchy of geographic regions such as "North America" which makes up one hierarchy and countries such as "United States" and "Canada" which comprise a second hierarchy nested within the first hierarchy.
- **Complex aggregating set (Whole-Part)**: A complex set is a set which has some other set of complex relations or set of subdomains expressed within a business rule.

The reason for providing this list of possible member aggregation models is that there is no standard way to represent such relations using the XBRL technical syntax. The relations can be represented, for example using XBRL Formula, but there is no agreed upon standard approach. There is no "standard" XBRL terminology at this time for these types of relations, all the terminology is taxonomy specific. This is because XBRL Dimensions does not address aggregation of domain members.

However, although XBRL Dimensions does not define how members of a domain aggregate or if they aggregate at all, you can use XBRL Formulas to clearly define such aggregation if they exist. This XBRL Formulas definition both articulates the aggregation scheme and can also be used to validate XBRL instances against that scheme. XBRL Formulas can handle quite complex models.

But, since the SEC does not allow XBRL Formulas to be submitted with an XBRL-based public company financial filing to the SEC, these filings can have aggregation schemes which are inconsistent with aggregation schemes you may come up with or different than how you might interpret the XBRL taxonomy. Public companies creating XBRL-based digital financial reports which will be submitted to the SEC can still create a valid scheme of aggregation, test any XBRL instances created against it in their XBRL-based financial report but not submit that XBRL Formula set with their XBRL-based financial filing. One way or another, SEC XBRL filers should prove that their XBRL instances do in fact follow their defined scheme by validating their XBRL instance.

1.4.1.Whole-part

A **whole-part** member arrangement pattern is semantically equivalent to the roll up concept arrangement pattern. Recall that the concept arrangement pattern computes a total, or roll up, from a set of other concepts. This concept arrangement pattern is commonly referred to a "roll up", or the equation A + B = C. All concepts involved in this concept arrangement pattern have the same set of characteristics and all must be numeric.

The whole-part member arrangement pattern represents the same roll up relationship; however, what is being rolled up is each of the [Member]s of an [Axis]. And so, it is the [Member] of the [Axis] which changes, the Concept characteristic is constant for all facts.

Component: (Network and Table)	
Network	1123 - Disclosure - **Revenue Classified by Major Geographic Areas (Detail)**
Table	Geographic Information [Table]

Reporting Entity [Axis]	0000789019 http://www.sec.gov/CIK
Legal Entity [Axis]	Entity [Domain]

Period [Axis] / Geographical [Axis]	2015-07-01/2016-06-30			2014-07-01/2015-06-30		
Geographic Information [Line Items]	United States	Other Countries	Geographical [Domain]	United States	Other Countries	Geographical [Domain]
Revenues	40,578,000,000 [1]	44,742,000,000	85,320,000,000 [2]	42,941,000,000 [1]	50,639,000,000	93,580,000,000

Characteristics can represent a whole or some part of a whole. Parts may be related in different ways. The following is a summary of subclasses of whole-part types of relations which may, or may not, be applicable to financial reporting. Other subclasses of whole-part relations may exist.

- **Component-integral object**: Indicates that a component contains some integral object. For example, the component handle is part of the integral object cup; wheels are a component part of a car; a refrigerator is a component of a kitchen.
- **Member-collection**: Indicates that some member is part of some collection. For example a ship is part of a fleet. Or, a subsidiary is part of an economic entity.
- **Portion-mass**: Indicates that some portion is part of some mass. For example a slice is part of a pie.
- **Stuff-object**: Indicates that some "stuff" is part of some object. For example steel is part of a car.
- **Feature-activity**: Indicates that some feature is part of some activity. For example the feature "paying" is part of the activity "shopping".
- **Place-area**: Indicates that some physical place is part of some area. For example the place "Everglades" is part of the area "Florida".

The primary point of these examples is to point out that similar type of whole-part relations can be provided for financial reporting.

1.4.2.Is-a

An **Is-a** member arrangement pattern simply describes and uniquely identifies a fact so that one fact can be distinguished from another fact. An Is-a member arrangement pattern is semantically equivalent to a [Hierarchy] in that it has no mathematical relations. However, rather than one single concept describing a fact, both a Concept and a [Member] is used to describe a fact.

Component: (Network and Table)	
Network	**Subsequent Events**
Table	Subsequent Events [Table]

Reporting Entity [Axis]	SAMP http://www.SampleCompany.com
Legal Entity [Axis]	Consolidated Entity [Member]
Period [Axis]	2010-01-01/2010-12-31

	Subsequent Event [Axis]	
Subsequent Event [Line Items]	Uncollected Receivable [Member]	Purchase of Business [Member]
Subsequent Event [Hierarchy]		
Subsequent Event, Description	Description of subsequent event number 1 which relates to the loss of an uncollectable receivable and occurred on January 16, 2011.	Description of subsequent event number 2 which relates to the purchase of a business and occurred on February 1, 2011.
Subsequent Event, Date	2011-01-16	2011-02-01

1.5. Report fragment arrangement patterns

Flow is the notion of relations between Networks and/or [Table]s for the purpose of ordering or sequencing information contained in a digital financial report. Creating schemes for generating the desired flow of information contained by a digital financial report can be impacted by metadata available.

1.5.1. XBRL-based financial reports to SEC report fragment ordering scheme

One example of using networks to order or sequence the contents of an XBRL-based digital financial report can be seen in how the SEC achieves sequencing. Consider the following example:

Cover
Document Information
Financial Statements
Notes to Financial Statements
Note A. Accounting Policies
Note B. Property, Plant and Equipment Policies
Note C. Inventory, By Component
Note D. Property, Plant and
All Reports

Note C. Inventory, By Component (As Reported February 12, 2011 [Member], Parent Company [Member], USD $) In Thousands	Dec. 31, 2010	Dec. 31, 2009
Inventory, by Component [Roll Up]		
Inventory, Finished Goods	$ 1,000	$ 1,000
Inventory, Work in Process	1,000	1,000
Inventory, Raw Materials	1,000	1,000
Other Inventory, Supplies	1,000	1,000
Inventory, Net, Total	$ 4,000	$ 4,000

The above is a fragment of a model financial report rendered within the SEC interactive data previewer. The XBRL extension taxonomy created by the public company drives the SEC interactive data viewer.

Networks drive the rendering of the table of contents on the left. Each network can be broken into three components which drive the sequencing of the rendering framework:

- **Number** such as "101000" within the first network.
- **Sort Category** such as "Document", "Statement" or "Disclosure"
- **Title** or other part of the networks definition.

The category is used to put the different networks into one of the yellow categories in the SEC example, the number determines the order within the category, and the balance of the description is the label that a user sees.

This approach is workable, but it means that all information must be broken out by network and anything smaller than the network itself cannot be broken out any further. For example, table information is not used for rendering information at all.

You can examine this in more detail by examining the reference or model implementation of an SEC XBRL financial filing.

1.5.2. Metadata provided impacts ordering

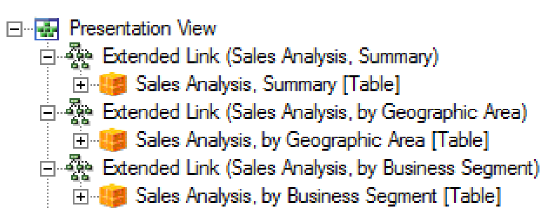
Certain metadata is required by the XBRL technical syntax. Other metadata is determined by how a taxonomy is expressed. The following is a summary of the constraints imposed by approaches used to express metadata within a taxonomy and how those constraints impact ordering.

- **Networks** – Networks are always required to be unique so as such, networks can always be used to order a taxonomy. However, if networks alone are used many times not enough granularity is achievable. Also networks cannot be articulated within a hierarchy.
- **Networks plus Non-unique Tables** – Tables can be used with networks to order information. However, depending on whether the tables are expressed are unique governs the role a network must play in allowing a table to be specifically identified.
- **Unique Tables** – If every table within a taxonomy is unique, then networks no longer need to be relied upon to uniquely identify and locate a table, the table alone will allow such identification.

1.5.3. Tables organized into a list

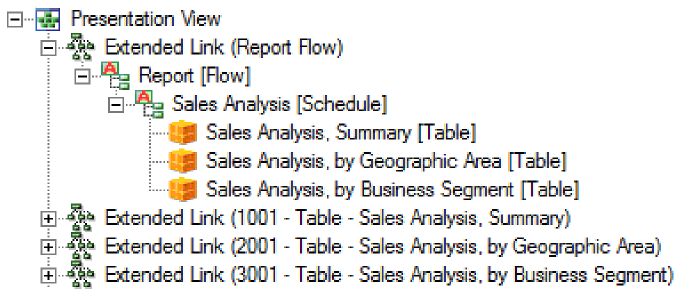
Another approach to articulating sequencing information can be seen by comparing the *Pivot Table* business use case with the *Flow* business use case.

Consider the screen shot below of the Pivot Table business use case:



There are three networks with three tables. Each network and table is unique. Suppose you wanted to articulate the ordering you would prefer for working with this information, how would you do that? You could request the information in the physical order in which it exists within the XBRL taxonomy or you could request the information in alphabetical order, that is about all the options you might have.

Now consider the *Flow* business use case below. The this taxonomy has a network called "Report Flow". Within that network, a hierarchy of the [Table]s which exist in the taxonomy for this financial report is provided.



As such, a software application can read that hierarchy and use it within the application to show the summary first, the geographic table second, and the business segment third.

Alternatively, the numbering of the network could be used to achieve the same goal as with the SEC example.

The [Table]s alone can be used, and the networks totally ignored, because each table is unique. By contrast, if each table were called "Sales Analysis, Summary [Table]", then to identify which [Table] you were looking for, you would also need to rely on the network.

1.5.4. Notion of the "Implied [Table]"

In the section which discusses the report elements which make up a digital financial report we explain that everything within a digital financial report exists within a [Table], be that [Table] explicitly articulated using the "[Table]" report element, or the table is implied.

Basically, everything expressed within a network which is not contained within some explicit [Table] can be thought of existing within a pseudo or implicit table called "No Table [Table]". Because you might have more than one "No Table [Table]", you must rely on the network to uniquely identify which "No Table [Table]" you would like to work with. As such, using implicit tables requires you to work with tables just as though you created non-unique tables.

1.5.5. The "Statement [Table]"

Another approach to defining [Table]s can be seen by examining the "Statement [Table]" within the US GAAP Taxonomy or even better, the "Hypercube [Table]" of the FINREP taxonomy.

The FINREP taxonomy took the most extreme route using one [Table] and one [Table] only throughout their entire taxonomy. They did this to specifically push all semantics of the meaning of a group of information onto the network which contains the hypercube. One can be sure that the network describes the information 100% of the time because (a) each [Table] is called exactly the same thing and (b) because each network could only possibly contain one [Table] because using the same [Table] name within a network would cause modelling conflicts (and remember, all

[Table]s have the same name). The bottom line here is that the network carries all semantics for describing the information, there is no confusion.

By contrast, the US GAAP Taxonomy has the "Statement [Table]" which is used on the balance sheet, the income statement, the cash flow statement, and the statement of changes in equity. As such, one can only know which "Statement [Table]" you are working with by using the network.

Further, most but not all other [Table]s in the US GAAP Taxonomy are unique. What is more, not everything is modelled as an explicit [Table] and therefore there are many "No Table [Table]s" (see the preceding section).

1.5.6. Which Approach is Best?

All this distils down into three possible options:

- **Use explicit unique [Tables]**. This option works well, and in fact it is the option which I believe is the most reasonable. By taking this approach you can ignore networks altogether, relegating networks to the role of syntax needed only for avoiding modelling conflicts. And because you can ignore the network, you can be sure the [Table] describes the information set and each [Table] being unique, each information set is unique.
- **Use explicit but only one [Table] for everything**. This option works well also because it is clear that the network carries all semantics for describing a set of information. The down side is that you have to create metadata such as the "number" and "category" used by the SEC to help organize those networks.
- **Mixed model**. If [Tables] are not unique and if [Table]s are not explicit (i.e. you have "No Table [Table]"s), you have to rely on both networks and tables to identify which information you need to work with. This can be both cumbersome for software and for users. A mixed model such as this does not appear to make much sense and should be avoided, all things considered.

There are no real benefits of having [Table]s names which can be used in more than one place, yet there are significant benefits of unique [Table] names.