1. Financial Report Object Properties

The purpose of this section is to describe the details of logical and physical implementation objects that are used within an XBRL-based digital financial report. Please refer to the logical model of a financial report¹.



1.1. Details of logical objects and their properties

This section provides a more complete detailed explanation of the logical objects of a financial report, the relations between those logical objects, and the properties of those objects and relations.

Essentially, this looks at isolated rudimentary pieces of the overall model and focuses on the individual piece in detail.

¹ Logical Model of a Financial Report, <u>http://xbrlsite.azurewebsites.net/2016/conceptual-model/LogicalModel-2019-03-10.jpg</u>





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Logical Object / Discussion	Graphical representation			
Arrangement Pattern is circled in RED; note that the Member Arrangement Pattern for the Aspect Reporting Entity and Aspect Period are not shown because they are always flat lists and are defined by an XBRL instance not from within the XBRL taxonomy.) Rules guide, control, suggest, or influence behavior. Rules cause things to happen, prevent things from happening, or suggest that it might be a good idea if something did or did not happen. Rules help shape judgment, help make decisions, help evaluate, help shape behavior, and help reach conclusions. A Report has structural Rules, mechanical Rules, logical Rules, mathematical Rules, consistency Rules, integrity Rules, and other such helpful Rules. (Common synonyms for Rule include Business Rule.) The following are the Rules related to the Fact Set shown above. These Rules articulate a Roll Up relation between the Concepts represented in the Information Model above:	Inventory Iconcept) Monetary 2 Finished Goods Iconcept) Monetary 3 Workin Progress Iconcept) Monetary 4 Raw Material Iconcept) Monetary	L Debit L	Name gaap:Inventory gaap:WorkInProgress gaap:RawMaterial	
A Rendering is a human-readable	Reporting Entity [Axis]	http://reg	ulator.gov/id#1	234567890
presentation of the information	Legal Entity [Axis]	Consolidat	ted Entity [Mem	nber]
provided within a Fact Set. A				
Rendering leverages the Information			Period [Axi	
Model, the Rules, the Fact Set itself,	Inventory, by Component [Line Items]		12/31/2020	12/31/2019
ideas of a pivot table (slicers, etc.)	Inventory, by Component [Roll Up]			
known common practices, and any	Finished Goods		600,000	600,000
other information provided by a	Work in Progress		300,000	300,000
software application to provide a	Raw Material		100,000	100,000
static or dynamic human-readable	Inventory		1,000,000	1,000,000
presentation of the represented information. For example, this is a Rendering:				



1.2. Implementation objects and their properties

The following is a summary of the implementation objects and their properties including a graphical depiction of each object.

Implementation Details	Graphical representation
Report : Financial reports communicate facts.	Report Properties
A financial report is implemented as an XBRL instance and supporting XBRL taxonomies. The distinction between instance and taxonomy is a nature of XBRL, not a nature of a financial report.	Has (exactly 1) Has (1 set/collection) Has (1 set/collection) Has (1 set/collection) Has (1 set/collection) Has (1 set/collection) Fragments (Collection) Rules











1.3. Implementation of report elements

Report elements are defined as elements that make up the structure of a fragment of a report. Report elements can be grouped into the following categories: Network, Table (or Hypercube), Axis (or Dimension), Member, Line Items (or Primary Items), Concept, and Abstract.

Report elements can be related to one another in specific ways. The following table describes the allowed and disallowed between the different categories of report elements:

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+											
		Restrictive model (Meets EFM filing rules, but less ambigous)									
			Parent								
		Network Table Axis Member LineItems Abstract Concept									
	Network	Illegal XBRL	Illegal XBRL	Illegal XBRL	Illegal XBRL	Illegal XBRL	Illegal XBRL	Illegal XBRL			
Child	Table	ОК	Disallowed	Disallowed	Disallowed	Disallowed	ОК	Disallowed			
	Axis	Disallowed	ОК	Disallowed	Disallowed	Disallowed	Disallowed	Disallowed			
	Member	Disallowed	Disallowed	OK	OK	Disallowed	Disallowed	Disallowed			
	Lineltems	Disallowed	OK	Disallowed	Disallowed	Disallowed	Disallowed	Disallowed			
	Abstract	OK	Disallowed	Disallowed	Disallowed	OK	Disallowed	Disallowed			
	Concept	Disallowed	Disallowed	Disallowed	Disallowed	ОК	OK	Disallowed			

The following table describes each report element and provides a graphical representation of the relations between the different objects that make up a report element.





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1.4. Implementation of concept arrangement patterns

A concept arrangement pattern is simply the arrangement of concept within the Concept aspect whether that set of concepts is defined within an explicit table or whether the concepts are defined within an implied table. The following graphic shows the information model of a Fact Set. The concept arrangement pattern is circled in RED. The member arrangement patterns are circled in GREEN.

#	Label	Report Element Class	Period Type	Balance	Name
1	Inventory, by Compoment [Table]	[Table]			gaap:InventoryByCompomentTable
2	Legal Entity [Axis]	[Axis]			frm:LegalEntityAxis
3	Consolidated Entity [Member]	[Member]			frm:ConsolidatedEntityMember
4	Inventory, by Component [Line Items]	[Line Items]			gaap:InventoryByComponentLineItems
5	Inventory, by Component [Roll Up]	[Abstract]			gaap:InventoryByComponentRollUp
6	Finished Goods	[Concept] Monetary	As Of	Debit	gaap:FinishedGoods
7	Work in Progress	[Concept] Monetary	As Of	Debit	gaap:WorkInProgress
8	Raw Material	[Concept] Monetary	As Of	Debit	gaap:RawMaterial
9	Inventory	[Concept] Monetary	As Of	Debit	gaap:Inventory

The following table describes each report element and provides a graphical representation of the relations between the different objects that make up a report element.

Implementation Details	Graphical representation				
Set: A Set is a type of concept	Graphical representation		Daria	d facial	
arrangement pattern where				d [Axis] 01-01 -	
concepts have no described	Document Information [Line Items]		2010-		
mathematical relations.	Document Information [Hierarchy]				
mathematical relations.	Reporting Style Code		COMID-BSC-CF1-	SM-IEMIB-OILY-	
HINT: An older synonym for Set			SPEC6		
is Hierarchy. The term Hierarchy	Document Title	Financial Stateme	nt		
is deprecated because essentially	Balance Sheet Date		2010-12-31		
all concept arrangement patterns	Income Statement Period		2010-01-01		
are hierarchies.	Document Identifier		XXXX		
are merarchies.	Document Description				
If facts need to be reported but	Document Creator				
they do not fit into one of the	Document Language		English		
other patterns described below;	Document Fiscal Period Focus		FY		
the facts can always be	Document Fiscal Year Focus		2010		
represented as s Set. You may					
· · · · · · · · · · · · · · · · · · ·					
not be able to represent the					
relations, but you can always					
represent the facts. Roll Up : A Roll Up is a type of		1	1.1		
concept arrangement pattern	Reporting Entity [Axis]		llator.gov/id#1		
which represents a basic roll up	Legal Entity [Axis]	Consolidate	ed Entity [Mem	iber]	
type mathematical relationship:					
Fact A + Fact B + Fact C = Fact D			Period [Axi	s]	
(a set of items and a total).	Inventory, by Component [Line Items]	1	2/31/2020	12/31/2019	
(a set of items and a total).	Inventory, by Component [Roll Up]				
HINT: Roll Up relations are always	Finished Goods		600,000	600,000	
easily distinguishable because	Work in Progress		300,000	300,000	
XBRL calculation relations exist to	Raw Material		100,000	100,000	
represent the roll up	Inventory		1,000,000	1,000,000	
mathematical business rules.	inventory		1,000,000	1,000,000	
A roll up has exactly one total. A roll up can be a nested set of roll ups such as an income statement. Roll Forward : A Roll Forward is				Period [Axis]	
a type of concept arrangement			2016-01-01 -	2015-01-01 -	
pattern which represents a basic	Product Liability Contingency [Line Items]		2016-12-31	2015-12-31	
roll forward mathematical	Product warranty accrual [Roll Forward]				
relation: Beginning balance	Product warranty accrual, beginning balance		58,000,000	58,000,000	
(stock) + changes (flow) =	Provision for product warranties issued		58,000,000	58,000,000	
Ending balance (stock)	Payments to satisfy claims		(6,000,000)		
	Currency translation				
HINT: Synonyms for roll forward	Product warranty accrual,	anding balance	(1,000,000)		
include movement analysis,	Product warranty accrual,	ending balance	58,000,000	58,000,000	
reconciliation, change analysis. Roll forward relations cannot be represented using XBRL calculations; XBRL Formula must be used.					
Adjustment : An adjustment is a				Period [Axis]	
type of concept arrangement				2010-01-01 -	
pattern which represents a basic	Statement of Changes in Equity, Prior Priod Adjustments [Line Items]	Rep	2010-12-31		
reconciliation between an	Retained Earnings (Accumulated Losses), Prior Period Adjustment		nber] 2,000		
originally stated value and a	Retained Earnings (Accumulated Losses), Originally Stated Reported as of February 22, 2010 [Member] Retained Earnings (Accumulated Losses), Prior Period Errors Reported as of March 18, 2011 [Member]				
restated value usually due to a	Retained Earnings (Accumulated Losses), Phot Period Errors Retained Earnings (Accumulated Losses), Changes in Accounting Policies				
correction or error: Originally	Retained Earnings (Accumulated Losses), Restated		(-1/		
stated balance + adjustments =					



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restated balance.					
Adjustment relations cannot be represented using XBRL calculations; XBRL Formula must be used.					
Variance: A variance is a type of					
concept arrangement pattern			2010- 2010-	01-01 - 12-31	
which represents a mathematical				cenario [Axis]	
difference between two reporting scenarios: Amount (actual	Variance Analysis, Gross Profit [Line	Items]	Variance Bud	lgeted	[Member]
scenario) – Amount (projected	Gross Profit (Loss) [Roll Up]	. reality	[Hember] [He	inder] Actual	[Hember]
scenario) = variance.	Revenues, Net	Revenues, Net Cost of Sales			4,000
Variance relations cannot be	Cost of Sales	(1)	999 3,006	1,000 3,000	
represented using XBRL calculations; XBRL Formula must be used.					
Roll Forward Info: A roll			Period [Axis] -		
forward info is a type of concept arrangement pattern which	Weighted Average Grant Date Fair Value	[Line Items]	2010-01-01/20	10-12-31	
represents a non-mathematical	Weighted Average Grant Date Fair V	alue [Roll			
relation of information about a	Forward Info] Nonvested Fair Value, Beginning Balance			32.72	
roll forward type relation.	Granted			41.51	
HINT: If you represent a roll	Vested			30.92	
forward info, you probably also	Forfeited			35.93	
represented a roll forward that has the information that the roll	Nonvested Failr Value, Ending Balance		36.92		
forward info is describing.					
Text Block : A text block is a type	Accounting Policies [Line Items]		Fact Value		
of concept arrangement pattern	Accounting Policies [Text Block]	Duis fermentum	Fact Value		
which represents a non- mathematical relationship in the form of prose.		acilisi. Fusce tristique posuere ipsum. Nulla verra risus vitae ante. Sed rhoncus mi in wisi. Jolestie vitae, imperdiet non, ornare at, elit.			
<i>HINT</i> : A text block is escaped XHTML and lets you represent a list, a paragraph, an entire table of information, etc.		 Suspendisse accumsan, arcu vel ornare interdum, magna tell porta mauris, in porta mi lacus sodales felis. Phasellus eleifend, diam vitae dapibus pulvinar, erat ligula auctor dui, eget congue justo lorem hendrerit tellus. Fusce gravida, ligula a placerat placerat, leo erat euismod leo et lacinia justo libero non pede. 			
		lacinia justo libero pretium.	ıla a placerat placerat, leo non pede. Vivamus ac ve		
		 Etiam ut aug Aliquam era 			
		DONEC PULVIN	AR NONUMMY ERAT		
		mollis mauris, non	venenatis, velit a accums; pharetra augue arcu eu fe t, pharetra quis, fermentu	lis. Ut eget felis.	
Complex Computation: A		F	Period [Axis] 👻		
complex computation is a type of	Earnings Per Share Components [Line Items]	Unit [👻	2010-01-01/2010-12-31	2009-01-01/20	009-12-31
concept arrangement pattern which represents any arbitrary	Earnings Per Share Components [Hierarchy				
mathematical relationship	Net Income (Loss) Weighted Average Common Shares	USD shares	10,000,000		000,000
between a set of numeric facts.	Earnings Per Share	USD / shares	100,000,000 0.10	100,	000,000 0.20
HINT: A complex computation essentially represents some set of numeric facts and then XBRL					



Formula is used to represent the mathematical relations between that set of facts.

1.5. Implementation of member arrangement patterns

A member arrangement pattern is simply the arrangement of concept within any Aspect other than the Concept aspect. The concept arrangement pattern is circled in RED. The member arrangement patterns are circled in GREEN.

#	Label	Report Element Class	Period Type	Balance	Name
1	Inventory, by Compoment [Table]	[Table]			gaap:InventoryByCompomentTable
2	Legal Entity [Axis]	[Axis]			frm:LegalEntityAxis
3	Consolidated Entity [Member]	[Member]			frm:ConsolidatedEntityMember
4	Inventory, by Component [Line Items]	[Line Items]			gaap:InventoryByComponentLineItems
5	Inventory, by Component [Roll Up]	[Abstract]			gaap:InventoryByComponentRollUp
6	Finished Goods	[Concept] Monetary	As Of	Debit	gaap:FinishedGoods
7	Work in Progress	[Concept] Monetary	As Of	Debit	gaap:WorkInProgress
8	Raw Material	[Concept] Monetary	As Of	Debit	gaap:RawMaterial
9	Inventory	[Concept] Monetary	As Of	Debit	gaap:Inventory

The following table describes each report element and provides a graphical representation of the relations between the different objects that make up a report element.

Implementation Details	Graphical represent	ation					
Member aggregation: A Member Aggregation is a type of			Period [Axis] 2020-01-01 - 2020-12-31				
member arrangement pattern		ľ		Customer [
which represents a basic roll up	Sales Analysis, by Customer [Line I	tems]	Customer A [Member]	Customer B [Member]	Customer C [Member]	All Customers [Member]	
type mathematical relationship:	Sales Analysis, by Customer [Set]						
Fact A + Fact B + Fact C = Fact D	Revenue		2,000	1,000	4,000	7,000	
(a set of items and a total)							
<i>HINT</i> : Note that the member aggregation and the roll up are logically identical.							
If facts need to be reported but they do not fit into one of the other patterns described below; the facts can always be represented as s Set. You may not be able to represent the relations, but you can always represent the facts.							
Member non-aggregation: A				Period [Axis]			
Member non-aggregation is a				016-01-01 - 016-12-31			
type of member arrangement				and Equipment, Type [A			
,,	Property, Plant and Equipment [Line Items]	Land [Member]	Machinery a	nd equipment [Member]	Furniture and fi	xtures [Member]	
pattern where concepts have no	Property, Plant and Equipment Policies [Hierarchy] Basis of valuation	Mauris tincidunt cursus	Mauris tincid	unt cursus	Mauris tincidunt cu	insus	
described mathematical relations;	Depreciation methods	and the encount canado	Sed element		Mauris tincidunt		
some aspect is provided	Estimated useful lives Dispositions policy		15 years		5 years		
specifically to distinguish one fact	Dispositions policy	Nam non tortor	Nam non tor	tor	Nam non tortor		
from another fact.							