1. Foundational Information Patterns

The following are the foundational information patterns that exist in business reports. These information patterns were derived from approximately 6,000 XBRL-based financial reports submitted to the U.S. Securities and Exchange Commission (SEC) by public companies.

These foundational information patterns are the "building blocks" of business report information. The information patterns are based on the logic of the information provided, not by the arbitrary preferences of those formatting or "presenting" the information. These patterns relate to the "representation" of information, not the "presentation" of information.

XBRL provides some basic information about the ordering or sequencing of information. Given a "hypercube" of information, the XBRL presentation relations provide information about:

1. The order of dimensions.
2. The order of members within a dimension.
3. The order of concepts within a set of line items.

Note that it is possible to convert a consistently structured set of XBRL presentation relations into the associated XBRL calculation relations, XBRL formulas and XBRL definition relations. As such, such a set of XBRL presentation, calculation, formulas, and definition relations is referred to as an information model.

In the following sections ten information patterns are shown and renderings of those information patterns are provided by three different software applications which were generated from only (a) the XBRL files provided for the test case and (b) knowledge and common practices related to the information pattern coded into the software application providing the information rendering.

Note that a standard XBRL processor such as Arelle is not capable of providing these human readable renderings because it has no knowledge of the logic of the information patterns.

The "information pattern" or "information model" is a combination of the pattern of the arrangement of concepts within a set of line items (i.e., concept arrangement pattern) and the pattern of the arrangement of members of a dimension (i.e., member arrangement pattern).

It is conceivable that there could be additional information patterns; however, it would be impossible to conclude that any of these 10 information patterns do not exist because they have all been observed in reports submitted to the SEC by public companies. If additional information patterns are discovered, they can be added to this list.

For more information about information patterns, please refer to *Concept Arrangement Patterns*[1] and *Member Arrangement Patterns*[2].

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[1] Charles Hoffman, CPA, *Concept Arrangement Patterns*,
http://www.xbrlsite.com/mastering/Part02_Chapter05.I_ConceptArrangementPatterns.pdf
[2] Charles Hoffman, CPA, *Member Arrangement Patterns*,
http://www.xbrlsite.com/mastering/Part02_Chapter05.J_MemberArrangementPatterns.pdf

1.1. Set

Platinum test case: http://www.xbrlsite.com/seattlemethod/platinum-testcases/set/index.html

Component: (Network and Hypercube)	
Network	10000-Document Information (http://www.xbrlsite.com/report/role/DocumentInformation)
Hypercube	Implied

Reporting Entity [Aspect]	SAMP | http://www.reportingscheme.com/ID

Concept [Aspect]	Period [Aspect] 2020-01-01 | 2020-12-31
Reporting Style Code	BS1-IS1-CF1
Document Title	External financial statement
Balance Sheet Date	2020-12-31
Income Statement Start Period	2020-01-01
Document Identifier	XBG-DD3-4BX-TTG
Document Fiscal Period Focus	FY
Document Fiscal Year Focus	2020

Concept	Period 2020-01-01 to 2020-12-31
Document Information [Set]	
Reporting Style Code	BS1-IS1-CF1
Document Title	External financial statement
Balance Sheet Date	2020-12-31
Income Statement Start Period	2020-01-01
Document Identifier	XBG-DD3-4BX-TTG
Document Fiscal Period Focus	FY
Document Fiscal Year Focus	2020

Component: (Network and Table)		
Network	10000 - Unknown - **Document Information**	
Table	Implied [Table]	
Reporting Entity [Axis]	SAMP http://www.reportingscheme.com/ID	
Unit [Axis]		
	Period [Axis]	
Implied [Line Items]	2020-01-01/2020-12-31	
Document Information [Set]		
Reporting Style Code	BS1-IS1-CF1	
Document Title	External financial statement	
Balance Sheet Date	2020-12-31	
Income Statement Start Period	2020-01-01	
Document Identifier	XBG-DD3-4BX-TTG	
Document Fiscal Period Focus	FY	
Document Fiscal Year Focus	2020	

1.2. Roll Up

Platinum test case: http://www.xbrlsite.com/seattlemethod/platinum-testcases/rollup/index.html

Component: (Network and Hypercube)	
Network	30000 - Property, Plant, and Equipment by Component (http://www.xbrlsite.com/report/role/PropertyPlantAndEquipment)
Hypercube	Implied

Reporting Entity [Aspect]	SAMP	http://www.reportingscheme.com/ID
Unit [Aspect]	iso4217:USD

Concept [Aspect]	Period [Aspect]	
	2020-12-31	2019-12-31
Land	$ 5,347,000	$ 1,147,000
Buildings, Net	244,508,000	366,375,000
Furnitures and Fixtures, Net	34,457,000	34,457,000
Computer Equipment, Net	4,169,000	5,313,000
Other Property, Plant and Equipment, Net	6,702,000	6,149,000
Property, Plant and Equipment, Net	$ 295,183,000	$ 413,441,000

Concept / Period	2020-12-31	2019-12-31
Property, Plant and Equipment, Net [Roll Up]		
Land	5,347,000	1,147,000
Buildings, Net	244,508,000	366,375,000
Furnitures and Fixtures, Net	34,457,000	34,457,000
Computer Equipment, Net	4,169,000	5,313,000
Other Property, Plant and Equipment, Net	6,702,000	6,149,000
Property, Plant and Equipment, Net	295,183,000	413,441,000

Component: (Network and Table)	
Network	30000 - Unknown - **Property, Plant, and Equipment by Component**
Table	Implied [Table]

Reporting Entity [Axis]	SAMP http://www.reportingscheme.com/ID	
Unit [Axis]	USD	

Implied [Line Items]	Period [Axis]	
	2020-12-31	2019-12-31
Property, Plant and Equipment, Net [Roll Up]		
Land	5,347,000	1,147,000
Buildings, Net	244,508,000	366,375,000
Furnitures and Fixtures, Net	34,457,000	34,457,000
Computer Equipment, Net	4,169,000	5,313,000
Other Property, Plant and Equipment, Net	6,702,000	6,149,000
Property, Plant and Equipment, Net	295,183,000	413,441,000

1.3. Roll Forward

Platinum test case: http://www.xbrlsite.com/seattlemethod/platinum-testcases/rollforward/index.html

Component: (Network and Hypercube)	
Network	1210 - Disclosure - Cash and Cash Equivalents Roll Forward (http://www.xbrlsite.com/report/role/CashAndCashEquivalents)
Hypercube	Implied

Reporting Entity [Aspect]	30810137d58f76b84afd | http://standards.iso.org/iso/17442
Unit [Aspect]	iso4217:USD

Concept [Aspect]	Period [Aspect]	
	2020-01-01 | 2020-12-31	2019-01-01 | 2019-12-31
Cash and Cash Equivalents, Beginning Balance	$ 398,937.76	$ 398,937.76
Collection of Receivables	2,072,035.32	0.00
Payment of Accounts Payable	(3,096,588.38)	0.00
Additional Long-term Borrowings	10,554.36	0.00
Repayment of Long term Borrowings	(33,491.00)	0.00
Capital Additions of Property, Plant and Equipment	0.00	0.00
Cash and Cash Equivalents, Ending Balance	$ (648,551.94)	$ 398,937.76

Concept	Period	2020-01-01 to 2020-12-31	2019-01-01 to 2019-12-31
Cash and Cash Equivalents [Roll Forward]			
Cash and Cash Equivalents, Beginning Balance		398,937.76	398,937.76
Collection of Receivables		2,072,035.32	0
Payment of Accounts Payable		(3,096,588.38)	0
Additional Long-term Borrowings		10,554.36	0
Repayment of Long term Borrowings		(33,491)	0
Capital Additions of Property, Plant and Equipment		0	0
Cash and Cash Equivalents, Ending Balance		(648,551.94)	398,937.76

Component: (Network and Table)	
Network	1210 - Disclosure - **Cash and Cash Equivalents Roll Forward**
Table	Implied [Table]

Reporting Entity [Axis]	30810137d58f76b84afd http://standards.iso.org/iso/17442
Unit [Axis]	USD

Implied [Line Items]	Period [Axis]	
	2020-01-01/2020-12-31	2019-01-01/2019-12-31
Cash and Cash Equivalents [Roll Forward]		
Cash and Cash Equivalents, Beginning Balance	398,938	398,938
Collection of Receivables	2,072,035	0
Payment of Accounts Payable	(3,096,588)	0
Additional Long-term Borrowings	10,554	0
Repayment of Long term Borrowings	(33,491)	0
Capital Additions of Property, Plant and Equipment	0	0
Cash and Cash Equivalents, Ending Balance	(648,552)	398,938

1.4. Arithmetic

Platinum test case: http://www.xbrlsite.com/seattlemethod/platinum-testcases/arithmetic/

Component: (Network and Hypercube)	
Network	01-Balance Sheet (http://www.xbrlsite.com/report/role/BalanceSheet)
Hypercube	Implied

Reporting Entity [Aspect]	GH259400TOMPUOLS65II	http://standards.iso.org/iso/17442
Unit [Aspect]	iso4217:USD

	Period [Aspect]	
Concept [Aspect]	2021-12-31	2020-12-31
Assets	$ 3,500	$ 0
Liabilities	500	0
Equity	3,000	0

Concept \ Period	2021-12-31	2020-12-31
Balance Sheet [Arithmetic]		
Assets	3,500	0
Liabilities	500	0
Equity	3,000	0

Reporting Entity [Axis]	GH259400TOMPUOLS65II http://standards.iso.org/iso/17442	
Unit [Axis]	USD	
	Period [Axis]	
Implied [Line Items]	2021-12-31	2020-12-31
Balance Sheet [Arithmetic]		
Assets	3,500	0
Liabilities	500	0
Equity	3,000	0

1.5. Member aggregation

Platinum test case: http://www.xbrlsite.com/seattlemethod/platinum-testcases/member-aggregation/index.html

Component: (Network and Hypercube)	
Network	09-Segment Revenues (http://www.xbrlsite.com/report/role/SegmentRevenues)
Hypercube	Segment Revenues [Hypercube]

Reporting Entity [Aspect]	GH259400TOMPUOLS65II | http://standards.iso.org/iso/17442
Unit [Aspect]	iso4217:USD

	Period [Aspect]			
	2020-01-01 | 2020-12-31			
	Segments [Axis]			
Concept [Aspect]	Segment Alpha [Member]	Segment Bravo [Member]	Segment Charlie [Member]	All Segments [Member]
Sgement Revenues [Set]				
Revenues	1,000	4,000	2,000	7,000

	Period	2020-01-01 to 2020-12-31			
	Segments [Axis]	All Segments [Member]	Segment Alpha [Member]	Segment Bravo [Member]	Segment Charlie [Member]
Concept					
	Sgement Revenues [Set]				
	Revenues	7,000	1,000	4,000	2,000

Component: (Network and Table)	
Network	09 - Unknown - **Segment Revenues**
Table	Segment Revenues [Hypercube]

Reporting Entity [Axis]	GH259400TOMPUOLS65II http://standards.iso.org/iso/17442			
Unit [Axis]	USD			
	Period [Axis] ▼ Segments [Axis] ▲			
	2020-01-01/2020-12-31			
Segment Revenues [Line Items]	Segment Alpha [Member]	Segment Bravo [Member]	Segment Charlie [Member]	All Segments [Member]
Sgement Revenues [Set]				
Revenues	1,000	4,000	2,000	7,000

(Note the difference in the direction of the information; right to left OR left to right)

1.6. *Member nonaggregation*

Platinum test case: http://www.xbrlsite.com/seattlemethod/platinum-testcases/member-nonaggregation/index.html

Component: (Network and Hypercube)	
Network	09-Segment Revenues (http://www.xbrlsite.com/report/role/SegmentRevenues)
Hypercube	Segment Revenues [Hypercube]

Reporting Entity [Aspect]	GH259400TOMPUOLS65II | http://standards.iso.org/iso/17442
Unit [Aspect]	iso4217:USD

Concept [Aspect]	Period [Aspect]			
	2020-01-01 | 2020-12-31			
	Segments [Axis]			
	Segment Alpha [Member]	Segment Bravo [Member]	Segment Charlie [Member]	All Segments [Member]
Sgement Revenues [Set]				
Revenues	1,000	4,000	2,000	

Period		2020-01-01 to 2020-12-31		
	Segments [Axis]			
Concept		Segment Alpha [Member]	Segment Bravo [Member]	Segment Charlie [Member]
Sgement Revenues [Set]				
Revenues		1,000	4,000	2,000

Component: (Network and Table)	
Network	09 - Unknown - **Segment Revenues**
Table	Segment Revenues [Hypercube]

Reporting Entity [Axis]		GH259400TOMPUOLS65II http://standards.iso.org/iso/17442		
Unit [Axis]		USD		
		Period [Axis] ▾ Segments [Axis] ▴		
		2020-01-01/2020-12-31		
Segment Revenues [Line Items]		Segment Alpha [Member]	Segment Bravo [Member]	Segment Charlie [Member]
Sgement Revenues [Set]				
Revenues		1,000	4,000	2,000

1.7. Variance (a.k.a. Difference)

Platinum test case: http://www.xbrlsite.com/seattlemethod/platinum-testcases/variance/index.html

Component: (Network and Hypercube)	
Network	05-Variance Analysis (http://www.xbrlsite.com/report/role/VarianceAnalysis)
Hypercube	Variance Analysis [Hypercube]

Reporting Entity [Aspect]	GH259400TOMPUOLS65II | http://standards.iso.org/iso/17442
Unit [Aspect]	iso4217:USD

Concept [Aspect]	Period [Aspect]		
	2020-01-01 | 2020-12-31		
	Scenario [Axis]		
	Variance [Member]	Budgeted [Member]	Actual [Member]
Variance Analysis [Roll Up]			
Revenues	$ 1,000	$ 6,000	$ 7,000
(Expenses)	(1,000)	(2,000)	(3,000)
Gains	250	750	1,000
(Losses)	(1,000)	(1,000)	(2,000)
Comprehensive Income	$ (750)	$ 3,750	$ 3,000

Concept	Period	2020-01-01 to 2020-12-31		
	Scenario [Axis]	Actual [Member]	Budgeted [Member]	Variance [Member]
Variance Analysis [Roll Up]				
Revenues		7,000	6,000	1,000
(Expenses)		(3,000)	(2,000)	(1,000)
Gains		1,000	750	250
(Losses)		(2,000)	(1,000)	(1,000)
Comprehensive Income		3,000	3,750	(750)

Component: (Network and Table)	
Network	05 - Unknown - Variance Analysis
Table	Variance Analysis [Hypercube]

Reporting Entity [Axis]	GH259400TOMPUOLS65II http://standards.iso.org/iso/17442
Period [Axis]	2020-01-01/2020-12-31
Unit [Axis]	USD

Variance Analysis [Line Items]	Scenario [Axis]		
	Variance [Member]	Budgeted [Member]	Actual [Member]
Variance Analysis [Roll Up]			
Revenues	1,000	6,000	7,000
(Expenses)	(1,000)	(2,000)	(3,000)
Gains	250	750	1,000
(Losses)	(1,000)	(1,000)	(2,000)
Comprehensive Income	(750)	3,750	3,000

1.8. Adjustment (a.k.a. Restatement)

Platinum test case: http://www.xbrlsite.com/seattlemethod/platinum-testcases/adjustment/index.html

Component: (Network and Hypercube)	
Network	04-Prior Period Errors (http://www.xbrlsite.com/report/role/PriorPeriodErrors)
Hypercube	Prior Period Errors [Hypercube]

Reporting Entity [Aspect]	GH259400TOMPUOLS65II | http://standards.iso.org/iso/17442
Unit [Aspect]	iso4217:USD

		Period [Aspect]
Concept [Aspect]	**Report Date [Axis]**	**2019-12-31**
Prior Period Errors [Adjustment]		
Equity, Originally Stated	Prior Report [Member]	$ 2,000
Changes in Accounting Policy	Current Report [Member]	(1,500)
Correction of an Error	Current Report [Member]	(500)
Equity, Restated Current Report [Member]		$ 0

		Period 2019-12-31
Concept	Report Date [Axis]	
Prior Period Errors [Adjustment]		
Equity, Originally Stated	Prior Report [Member]	2,000
Changes in Accounting Policy	Current Report [Member]	(1,500)
Correction of an Error	Current Report [Member]	(500)
Equity, Restated	Current Report [Member]	0

Component: (Network and Table)	
Network	04 - Unknown - **Prior Period Errors**
Table	Prior Period Errors [Hypercube]

Reporting Entity [Axis]	GH259400TOMPUOLS65II http://standards.iso.org/iso/17442
Period [Axis]	2019-12-31

		Unit [Axis]
Prior Period Errors [Line Items]	**Report Date [Axis]**	**USD**
Prior Period Errors [Adjustment]		
Equity, Originally Stated	Prior Report [Member]	2,000
Changes in Accounting Policy	Current Report [Member]	(1,500)
Correction of an Error	Current Report [Member]	(500)
Equity, Restated	Current Report [Member]	0

1.9. Text Block (a.k.a. Escaped XHTML)

Platinum test case: http://www.xbrlsite.com/seattlemethod/platinum-testcases/textblock/index.html

Component: (Network and Hypercube)	
Network	08-Policies (http://www.xbrlsite.com/report/role/Policies)
Hypercube	Implied

Reporting Entity [Aspect]	GH259400TOMPUOLS65II | http://standards.iso.org/iso/17442

Concept [Aspect]	Period [Aspect]
	2020-01-01 | 2020-12-31
Basis of Reporting [Text Block]	Duis fermentum. Nullam dui orci, scelerisque porttitor, volutpat a, porttitor a, enim. Sed lobortis. Maecenas scelerisque ullamcorper libero. Aliquam porta leo imperdiet pede. In semper, elit vel elementum auctor, lectus purus rhoncus arcu, lacinia sollicitudin justo odio et nunc. Phasellus sagittis fringilla risus. Curabitur iaculis sagittis orci. Ut malesuada libero nec nulla molestie vestibulum. Suspendisse lectus massa, ullamcorper at, tincidunt eget, bibendum vel, risus. Curabitur imperdiet. Suspendisse accumsan, arcu vel ornare interdum, magna tellus porta mauris, in porta mi lacus sodales felis. Pellentesque dapibus, leo non sollicitudin consequat, lectus orci fringilla felis, non interdum leo libero sed augue. Sed magna. Maecenas ante ipsum, congue ut, sodales a, pulvinar ut, dui. Suspendisse mauris massa, sollicitudin et, hendrerit eget, placerat id, orci. Donec molestie magna. Sed mauris. Nulla facilisi. Fusce tristique posuere ipsum. Nulla facilisi. Aliquam viverra risus vitae ante. Sed rhoncus mi in wisi. Nullam nibh dui, molestie vitae, imperdiet non, ornare at, elit. Aenean nec justo. Vestibulum ante ipsum primis in faucibus orci luctus et ultrices posuere cubilia Curae; Duis sodales.

	Period	2020-01-01 to 2020-12-31
Concept		
Policies [Abstract]		
Basis of Reporting [Text Block]		Duis fermentum. Nullam dui orci, scelerisque porttitor, volutpat a, porttitor a, enim. Sed lobortis. Maecenas scelerisque ullamcorper libero. Aliquam porta leo imperdiet pede. In semper, elit vel elementum auctor, lectus purus rhoncus arcu, lacinia sollicitudin justo odio et nunc. Phasellus sagittis fringilla risus. Curabitur iaculis sagittis orci. Ut malesuada libero nec nulla molestie vestibulum. Suspendisse lectus massa, ullamcorper at, tincidunt eget, bibendum vel, risus. Curabitur imperdiet. Suspendisse accumsan, arcu vel ornare interdum, magna tellus porta mauris, in porta mi lacus sodales felis. Pellentesque dapibus, leo non sollicitudin consequat, lectus orci fringilla felis, non interdum leo libero sed augue. Sed magna. Maecenas ante ipsum, congue ut, sodales a, pulvinar ut, dui. Suspendisse mauris massa, sollicitudin et, hendrerit eget, placerat id, orci. Donec molestie magna. Sed mauris. Nulla facilisi. Fusce tristique posuere ipsum. Nulla facilisi. Aliquam viverra risus vitae ante. Sed rhoncus mi in wisi. Nullam nibh dui, molestie vitae, imperdiet non, ornare at, elit. Aenean nec justo. Vestibulum ante ipsum primis in faucibus orci luctus et ultrices posuere cubilia Curae; Duis sodales.

Component: (Network and Table)	
Network	08 - Unknown - Policies
Table	Implied [Table]

Reporting Entity [Axis]	GH259400TOMPUOLS65II http://standards.iso.org/iso/17442
Unit [Axis]	

Period [Axis]	
Implied [Line Items]	2020-01-01/2020-12-31
Basis of Reporting [Text Block]	Duis fermentum. Nullam dui orci, scelerisque porttitor, volutpat a, porttitor a, enim. Sed lobortis. Maecenas scelerisque ullamcorper libero. Aliquam porta leo imperdiet pede. In semper, elit vel elementum auctor, lectus purus rhoncus arcu, lacinia sollicitudin justo odio et nunc. Phasellus sagittis fringilla risus. Curabitur iaculis sagittis orci. Ut malesuada libero nec nulla molestie vestibulum. Suspendisse lectus massa, ullamcorper at, tincidunt eget, bibendum vel, risus. Curabitur imperdiet. Suspendisse accumsan, arcu vel ornare interdum, magna tellus porta mauris, in porta mi lacus sodales felis. Pellentesque dapibus, leo non sollicitudin consequat, lectus orci fringilla felis, non interdum leo libero sed augue. Sed magna. Maecenas ante ipsum, congue ut, sodales a, pulvinar ut, dui. Suspendisse mauris massa, sollicitudin et, hendrerit eget, placerat id, orci. Donec molestie magna. Sed mauris. Nulla facilisi. Fusce tristique posuere ipsum. Nulla facilisi. Aliquam viverra risus vitae ante. Sed rhoncus mi in wisi. Nullam nibh dui, molestie vitae, imperdiet non, ornare at, elit. Aenean nec justo. Vestibulum ante ipsum primis in faucibus orci luctus et ultrices posuere cubilia Curae; Duis sodales.

1.10. Roll Forward Info

Platinum test case: http://www.xbrlsite.com/seattlemethod/platinum-testcases/rollforwardinfo/index.html

Component: (Network and Hypercube)	
Network	06-Stock Plan Activity (http://www.xbrlsite.com/report/role/StockPlanActivity)
Hypercube	Implied

Reporting Entity [Aspect]	GH259400TOMPUOLS65II	http://standards.iso.org/iso/17442
Unit [Aspect]	iso4217:USD/shares

Concept [Aspect]	Period [Aspect]	
Nonvested Fair Value, Beginning Balance	2019-12-31	32.72
Granted	2020-01-01 | 2020-12-31	41.51
Vested	2020-01-01 | 2020-12-31	30.92
Forfeited	2020-01-01 | 2020-12-31	35.93
Nonvested Fair Value, Ending Balance	2020-12-31	36.92

Concept / Period	2020-01-01 to 2020-12-31
Weighted Average Grant Date Fair Value [Roll Forward Info]	
Nonvested Fair Value, Beginning Balance	32.72
Granted	41.51
Vested	30.92
Forfeited	35.93
Nonvested Fair Value, Ending Balance	36.92

Component: (Network and Table)	
Network	06 - Unknown - **Stock Plan Activity**
Table	Implied [Table]

Reporting Entity [Axis]	GH259400TOMPUOLS65II http://standards.iso.org/iso/17442
Unit [Axis]	USD/shares / shares

Implied [Line Items]	2020-01-01/2020-12-31	
Weighted Average Grant Date Fair Value [Roll Forward Info]		
Nonvested Fair Value, Beginning Balance	33	
Granted	42	
Vested	31	
Forfeited	36	
Nonvested Fair Value, Ending Balance	37	