The Journey Continues

XBRL Standard

The Journey Continues
All Good Things Evolve

Underlying utility remain the same; more features get added
XBRL Specs – In Step with the Times

- **XFRMML**: The first prototype developed
- **XBRL 2.1**: Fundamental framework for XBRL syntaxes and semantics
- **XBRL-GL**: Specializes in reporting data at transactional level
- **Versioning**: Communicate changes between two versions of taxonomy
- **Formula**: Complex business validations
- **Extensible Enumeration**: Define fixed, reusable list of valid values
- **Open Information Model**: Simplification of XBRL and easy consumption
  - Transformed readily into other formats

**Timeline**

- **1998**: XBRL International Steering Committee
- **2003**: Dimension support dimensional data modelling for complex business requirements
- **2007**: Generic Links structure to define any relationship in taxonomy
- **2010**: Table Linkbase defined reporting templates in taxonomy
- **2014**: ixBRL embedding of XBRL tags into a HTML document
- **2016**: Taxonomy Packages standard syntax for taxonomy metadata
New Linkbases on The Block

- Formula and Table Linkbases

Quick Walk through

- Market Needs
- Features
- Examples
- Jargon!
- Implementation
Does Data Quality Matter?

IF THE TOTAL’S WRONG, IS THE WHOLE THING WRONG?
Formula Linkbase

Standardized business rules for defining, processing and error reporting

- XML and XBRL Base Specification Can Check
  - Data format
  - Number of occurrences
  - Arithmetical relationships
  - Valid dimension combination

Business Reporting + Validations = Clean Data
Validate through the Linkbase!

**FORMULA LINKBASE**
- Standard Syntax
- Part of Taxonomy
- XBRL Compliant Application

**CUSTOM**
- Proprietary
- Outside Taxonomy
- Custom Applications
Formula Linkbase - Features

- Multi-context concepts
- Logical operators
- Precondition processing
- Criteria-based filtering
- Parameter-based evaluation
- Derivation of new values
- Custom error messages
## Popular Examples

<table>
<thead>
<tr>
<th>Mandatory information</th>
<th>• Name of company, Total asset</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comparing values</td>
<td>• Assets = Liabilities</td>
</tr>
</tbody>
</table>
| Parameter for values  | • Depreciation cannot be negative  
                        |   • tax provision should not exceed 25% of net profit |
| Mathematical operations | • EPS = Profit/Number of shares  
                        |   • RWA = Exposure Amount * Risk Weights |
| Reconciliation        | • Opening balance of cash + changes during period = closing balance of cash |
| Break-Downs           | • Product wise revenue aggregate to the total value |
Taxonomy in Use - Examples

- **RBI**
  - Total Bills Payable = 'Day 1' + '2 to 7 Days' + '8 to 14 Days' + '15 to 28 Days' + '29 Days and Upto 3 months' + 'Over 3 months and upto 6 months' + 'Over 6 months and Upto 1 year' + 'Over 1 year and upto 3 years' + 'Over 3 years and upto 5 years' + 'Over 5 years'

  **Summation across all maturities**
  - Risk Adjusted Value = Net Book Value * Risk Weights / 100

  **Multiplication**
  - Phishing Loss = Total Amount of loss for the Quarter due to Phishing / Value of Transactions for the Quarter

  **Division**

- **IFRS**
  - EPS = Profit (loss)/average number of shares
  - Net Increase in cash and cash equivalents = cash and cash equivalents at end of period - cash and cash equivalents at beginning of period
  - Value exceed 0 e.g. Borrowings, Current Provisions, Equity etc.
  - Aircraft = Aircraft [member] in Property, plant and equipment [axis] with primary item Property, plant and equipment
Enter the Jargon

✓ Assertion
  
  Existence, Value and Consistency

✓ Variable

✓ Expression

✓ Precondition

✓ Filters

✓ Assertion Messages
What the Consortium Brings to the Table *(Linkbase)*

- **Machine Readable** → **Human Readable**
  - Read and understand XML tags in instance documents
  - Co-relate with underlying taxonomy
  - Create reports for human consumption

- **Traditionally Done Through**
  - Presentation/Definition Linkbase
  - Customized rendering
Table Linkbase: The Need

Traditional Linkbase

![Table Linkbase Example]

- **Components of reserves [Abstract]**
- **Changes in reserves [Abstract]**
- **Additions to reserves [Abstract]**
  - Profit (loss) for period
  - Other additions to reserves
  - Total additions to reserves
- **Deductions to reserves [Abstract]**
  - Other deductions to reserves
  - Total deductions to reserves

### Custom Logic
- Becomes proprietary and reduces reusability
- Dilutes the usage of standards

### Table Linkbase
- Standard Syntax reporting templates
- Instance Creation
- Rendering Instance
<table>
<thead>
<tr>
<th>Table Linkbase Features</th>
</tr>
</thead>
<tbody>
<tr>
<td>Complex tables</td>
</tr>
<tr>
<td>Open tables</td>
</tr>
<tr>
<td>Customized labels</td>
</tr>
<tr>
<td>Reuse existing linkbase</td>
</tr>
<tr>
<td>Repeated tables</td>
</tr>
<tr>
<td>XBRL properties under the hood</td>
</tr>
</tbody>
</table>
# Table Linkbase Examples – RBI Return

<table>
<thead>
<tr>
<th>Details</th>
<th>Sector Wise NPA Gross Advances</th>
<th>Sector Wise NPA Gross NPAs</th>
<th>Sector Wise NPA Gross NPAs as % to Gross Advances</th>
<th>Sector Wise NPA Net Advances</th>
<th>Net NPAs</th>
</tr>
</thead>
<tbody>
<tr>
<td>I. Priority Sector</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a) Agriculture</td>
<td>1000000.00</td>
<td>6000000.00</td>
<td>6.00</td>
<td>11000000.00</td>
<td>16000000.00</td>
</tr>
<tr>
<td>b) MSE</td>
<td>20000000.00</td>
<td>14000000.00</td>
<td>7.00</td>
<td>12000000.00</td>
<td>17000000.00</td>
</tr>
<tr>
<td>c) Education</td>
<td>30000000.00</td>
<td>30000000.00</td>
<td>10.00</td>
<td>13000000.00</td>
<td>18000000.00</td>
</tr>
<tr>
<td>d) Housing</td>
<td>40000000.00</td>
<td>40000000.00</td>
<td>10.00</td>
<td>14000000.00</td>
<td>19000000.00</td>
</tr>
<tr>
<td>e) Others</td>
<td>5000000.00</td>
<td>10000000.00</td>
<td>2.00</td>
<td>15000000.00</td>
<td>20000000.00</td>
</tr>
<tr>
<td>II. Non-Priority Sector</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a) Large Industries</td>
<td>21000000.00</td>
<td>20000000.00</td>
<td>0.95</td>
<td>6000000.00</td>
<td>10000000.00</td>
</tr>
<tr>
<td>b) Medium Industries</td>
<td>22000000.00</td>
<td>14000000.00</td>
<td>0.64</td>
<td>7000000.00</td>
<td>11000000.00</td>
</tr>
<tr>
<td>c) Trade and Others</td>
<td>23000000.00</td>
<td>21000000.00</td>
<td>0.91</td>
<td>8000000.00</td>
<td>12000000.00</td>
</tr>
<tr>
<td>A. Public Sector Undertakings</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B. Others</td>
<td>57000000.00</td>
<td>139000000.00</td>
<td>2.44</td>
<td>77000000.00</td>
<td>11000000.00</td>
</tr>
<tr>
<td>Grand Total (I+II OR A+B)</td>
<td>81000000.00</td>
<td>155000000.00</td>
<td>1.91</td>
<td>86000000.00</td>
<td>123000000.00</td>
</tr>
</tbody>
</table>
### XBRL Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>abstract</td>
<td>false</td>
</tr>
<tr>
<td>scale</td>
<td>Lakhs</td>
</tr>
<tr>
<td>dynamicDomainMapping</td>
<td>false</td>
</tr>
<tr>
<td>IdentifierScheme</td>
<td><a href="http://www.rbi.gov.in">http://www.rbi.gov.in</a></td>
</tr>
<tr>
<td>IdentifierValue</td>
<td></td>
</tr>
<tr>
<td>uniqueKey</td>
<td>749581b574855367721ae39725a2cc9f</td>
</tr>
<tr>
<td>id</td>
<td>729</td>
</tr>
<tr>
<td>primaryElement</td>
<td>in-rbi-rep:GrossAdvances</td>
</tr>
<tr>
<td>datatype</td>
<td>monetaryItemType</td>
</tr>
<tr>
<td>UnitNumerator</td>
<td>iso4217:INR</td>
</tr>
<tr>
<td>Dimension 1</td>
<td></td>
</tr>
<tr>
<td>dimensionQname</td>
<td>in-rbi-rep:SectoralAnalysisAxis</td>
</tr>
<tr>
<td>dimensionType</td>
<td>Explicit</td>
</tr>
<tr>
<td>domainMemberQname</td>
<td>in-rbi-rep:PrioritySectorMember</td>
</tr>
<tr>
<td>contextElement</td>
<td>segment</td>
</tr>
<tr>
<td>PeriodInstant</td>
<td>xs:dateTime($refPeriodEndDate)</td>
</tr>
<tr>
<td>primaryElementOrder</td>
<td>352</td>
</tr>
</tbody>
</table>
Back to Jargon!

- Open/Closed table
- Axis (x, y and z)
- Aspects
- Rule node
- Relationship nodes
- Aspects nodes
- Roll-up nodes
- Constraints
Implementation Around the Globe

**Formula Linkbase**
- Reserve Bank of India
- General Purpose Taxonomy of Chinese Accounting
- ACRA - Accounting and Corporate Regulatory Authority Singapore
- Department of Business Development - Thailand
- European Banking Authority

**Table Linkbase**
- European Banking Authority (EBA)
- EIOPA
- Bank of Mauritius
Thank you!

Questions?

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