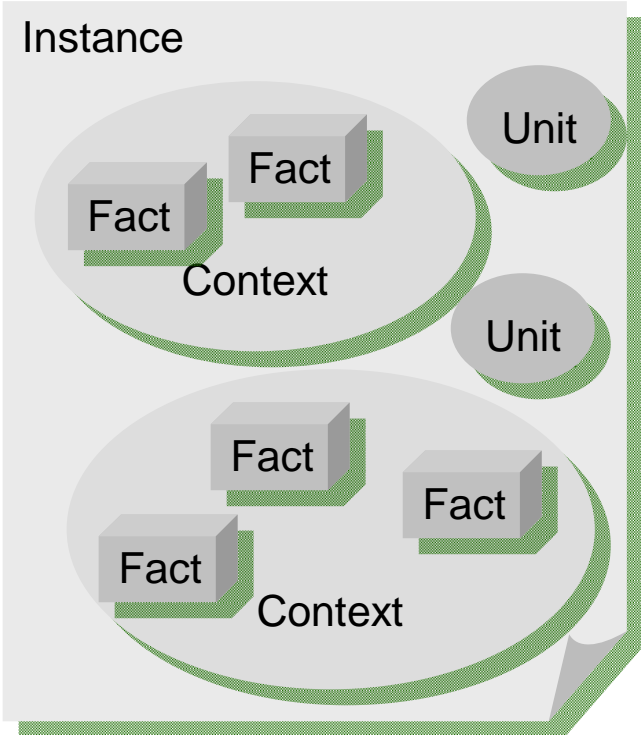# Sanction, Traction, and Technical Foundations
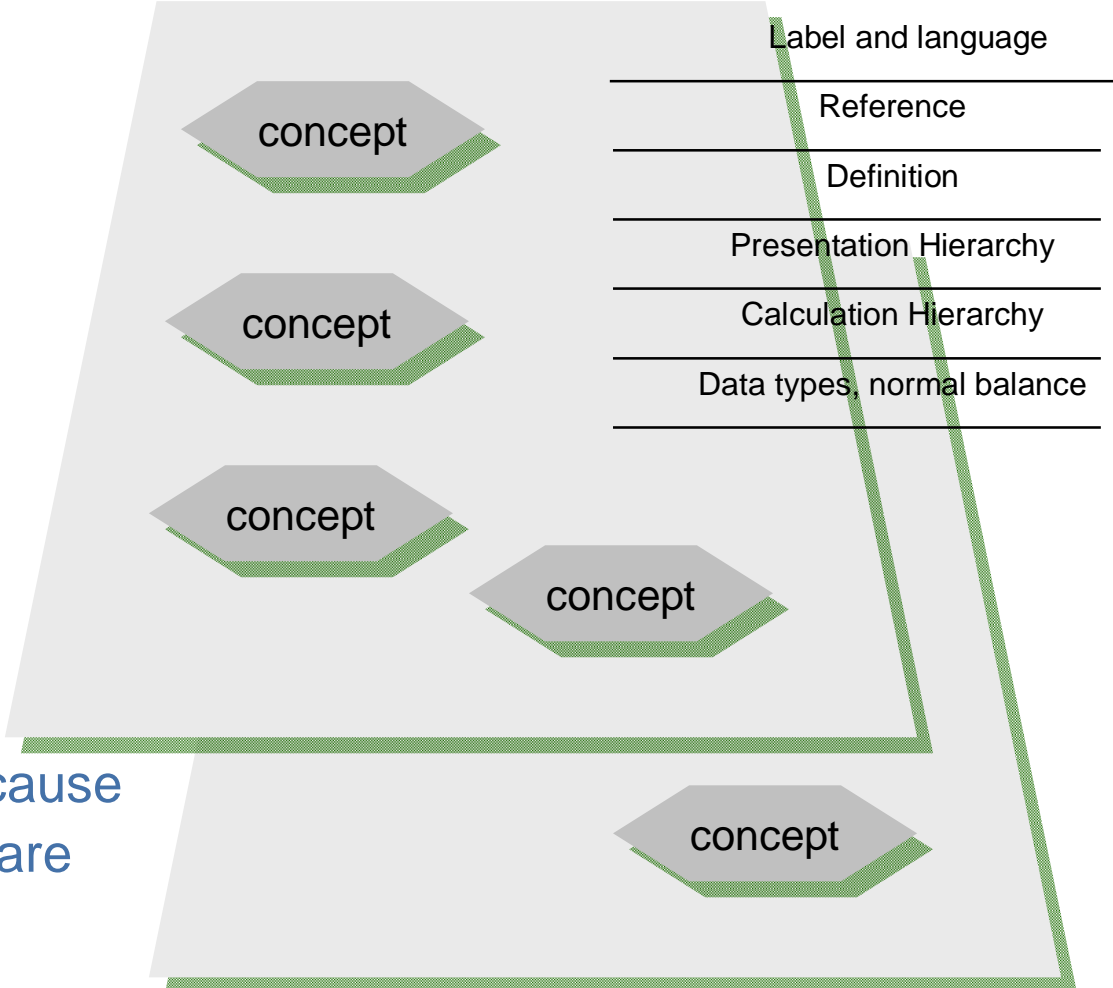
- Role of XML Schema in XBRL

- Role of XML Linking Language in XBRL

- Extensibility

- Taxonomies

XBRL Fundamentals

Data (INSTANCE)

Meta Data (TAXONOMIES)

Instance

Fact

Fact

Unit

Context

Unit

Fact

Fact

Fact

Context

concept

concept

concept

concept

concept

Label and language

Reference

Definition

Presentation Hierarchy

Calculation Hierarchy

Data types, normal balance

XBRL is the way that it is because *business reporting concepts* are extensible.

2

Raw XBRL Instance

In HKD

```xml
<unit id="hkd">
    <measure>iso4217:hkd</measure>
</unit>

<context id="c0003">
  <entity>
    <identifier scheme="HKEX">rg</identifier>
  </entity>
  <period>
    <startDate>2000-01-01</startDate>
    <endDate>2000-12-31</endDate>
  </period>
</context>
```

Rock Gravel Ltd
Period from 1 Jan 2000 to
31 Dec 2000

More Raw XBRL Instance

```
<gaap:lb.noncur.crd contextRef="c0001" unitRef="usd" decimals="-3">-310000000.</gaap:lb.noncur.crd>
<gaap:lb.noncur.crd contextRef="c0002" unitRef="usd" decimals="-3">-449000.</gaap:lb.noncur.crd>
<gaap:lb.noncur.crd contextRef="c0003" unitRef="usd" decimals="-3">-344000000.</gaap:lb.noncur.crd>
<gaap:lb.noncur.crd contextRef="c0004" unitRef="usd" decimals="-3">-499000.</gaap:lb.noncur.crd>
<gaap:lb.provisions contextRef="c0001" unitRef="usd" decimals="-3">-112000000.</gaap:lb.provisions>
<gaap:lb.provisions contextRef="c0002" unitRef="usd" decimals="-3">-163000.</gaap:lb.provisions>
<gaap:lb.provisions contextRef="c0003" unitRef="usd" decimals="-3">-212000000.</gaap:lb.provisions>
<gaap:lb.provisions contextRef="c0004" unitRef="usd" decimals="-3">-307000.</gaap:lb.provisions>
<gaap:opc contextRef="c0001" unitRef="usd" decimals="-3">-3181000000.</gaap:opc>
<gaap:opc contextRef="c0002" unitRef="usd" decimals="-3">-4613000.</gaap:opc>
```

```
<gaap:opc contextRef="c0003" unitRef="hkd"
 decimals="-6">-3583000000.</gaap:opc>
```

```
<gaap:opc.acq contextRef="c0004" unitRef="usd" decimals="-3">-50000.</gaap:opc.acq>
<gaap:opc.cnt contextRef="c0001" unitRef="usd" decimals="-3">411000000.</gaap:opc.cnt>
<gaap:opc.cnt contextRef="c0002" unitRef="usd" decimals="-3">5950
<gaap:opc.cnt contextRef="c0003" unitRef="usd" deci         337
<gaap:opc.cnt contextRef="c0004" unitRef="usd" decimals
<gaap:opf contextRef="c0005" unitRef="usd" decimals="-3">1
<gaap:opf contextRef="c0006" unitRef="usd" decimals="-3">22800
<gaap:opf contextRef="c0007" unitRef="usd" decimals="-3">84000.
<gaap:opf contextRef="c0008" unitRef="usd" decimals="-3">73000.<
```

**According to GAAP
the
Operating Costs
for
Rock Gravel Corporation
during
Calendar Year 2001
in
HKD = 3,583 million**

Sanction, Traction, and Technical Foundations

- Role of XML Schema in XBRL

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Role of XML Schema in Validation

Primitive data types

- The value of riad0348 must be nine digits and not negative

Compound data structures

- A Maturity Breakdown must contain Loans, Securities and Derivatives

Calculated data values

- RIAC4410 = RIAC4411 + RIAC4412, plus or minus 10,000

Co-Constraints among data values: Formulas

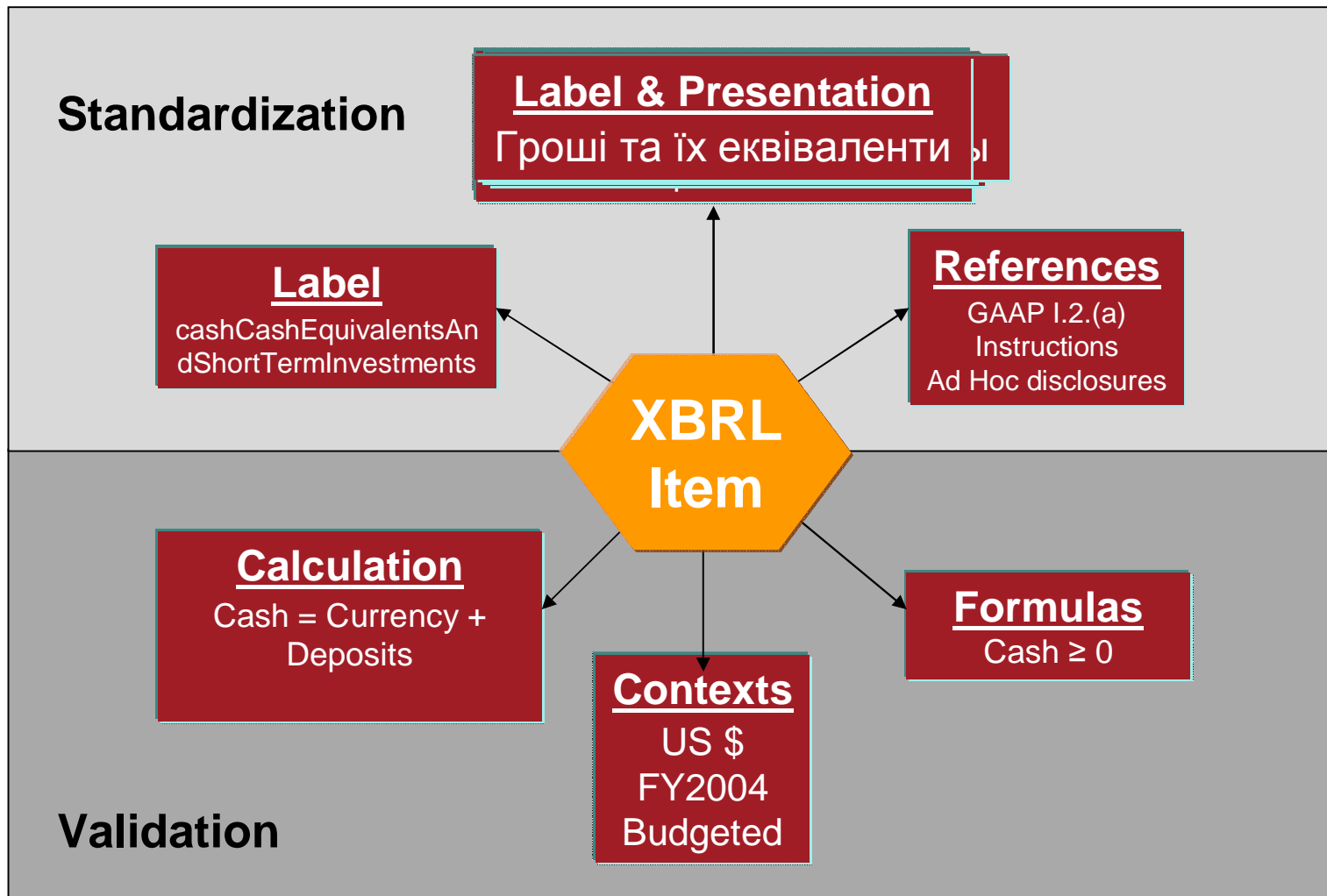- Box27 is True if and only if Box28 is the same as Box29

Cross-document constraints

- Var50 is True if Box28 is larger than any value ever reported.

Sanction, Traction, and Technical Foundations

- Role of XML Schema in XBRL

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XBRL – Multiple Uses

Standardization

Label & Presentation
Гроші та їх еквіваленти

Label
cashCashEquivalentsAndShortTermInvestments

References
GAAP I.2.(a)
Instructions
Ad Hoc disclosures

XBRL Item

Calculation
Cash = Currency + Deposits

Contexts
US $
FY2004
Budgeted

Formulas
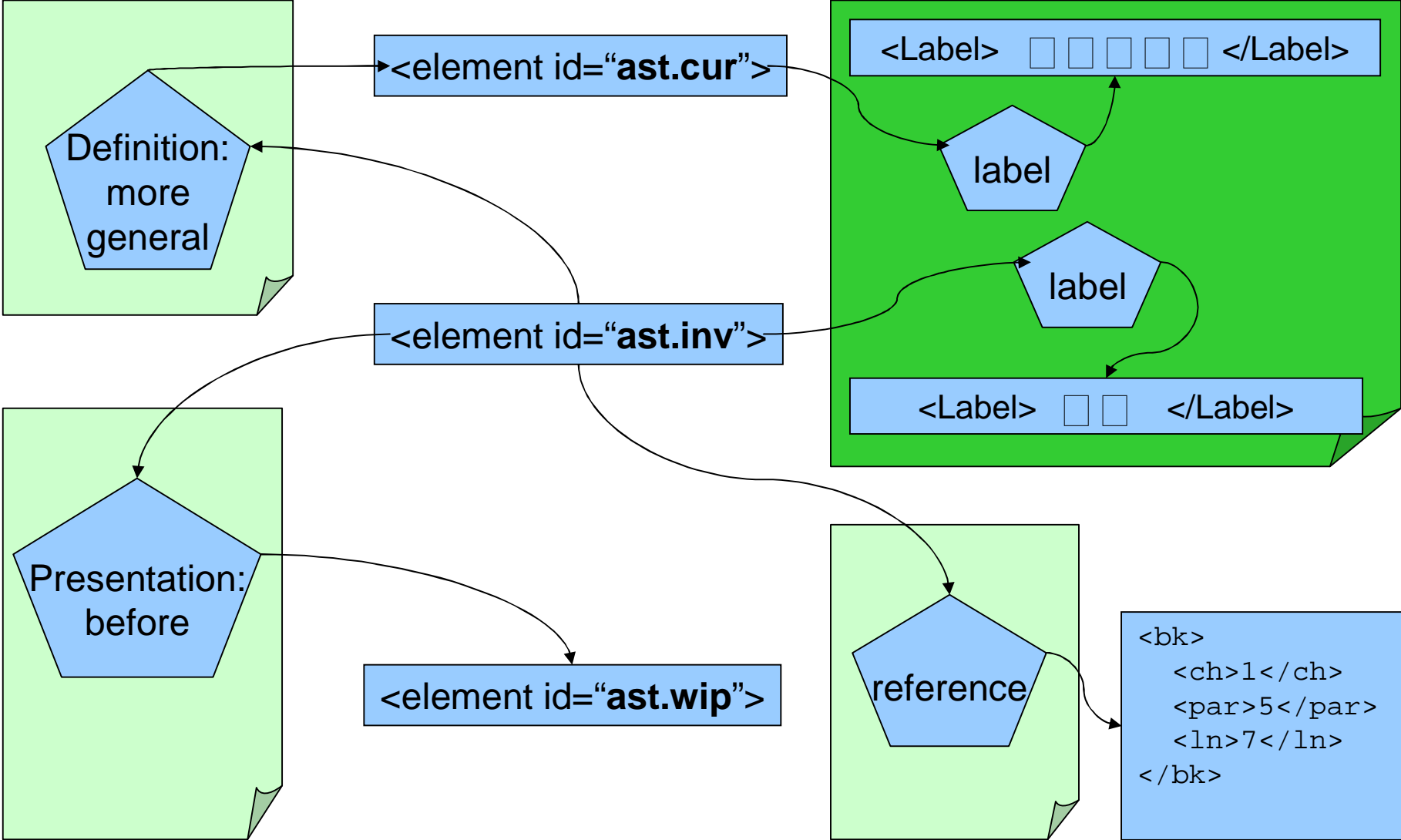Cash ≥ 0

Validation

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XML Linking (XLink)

XLink is a W3C standard way to use XML to represent all kinds of relationships between XML elements no matter where they are.
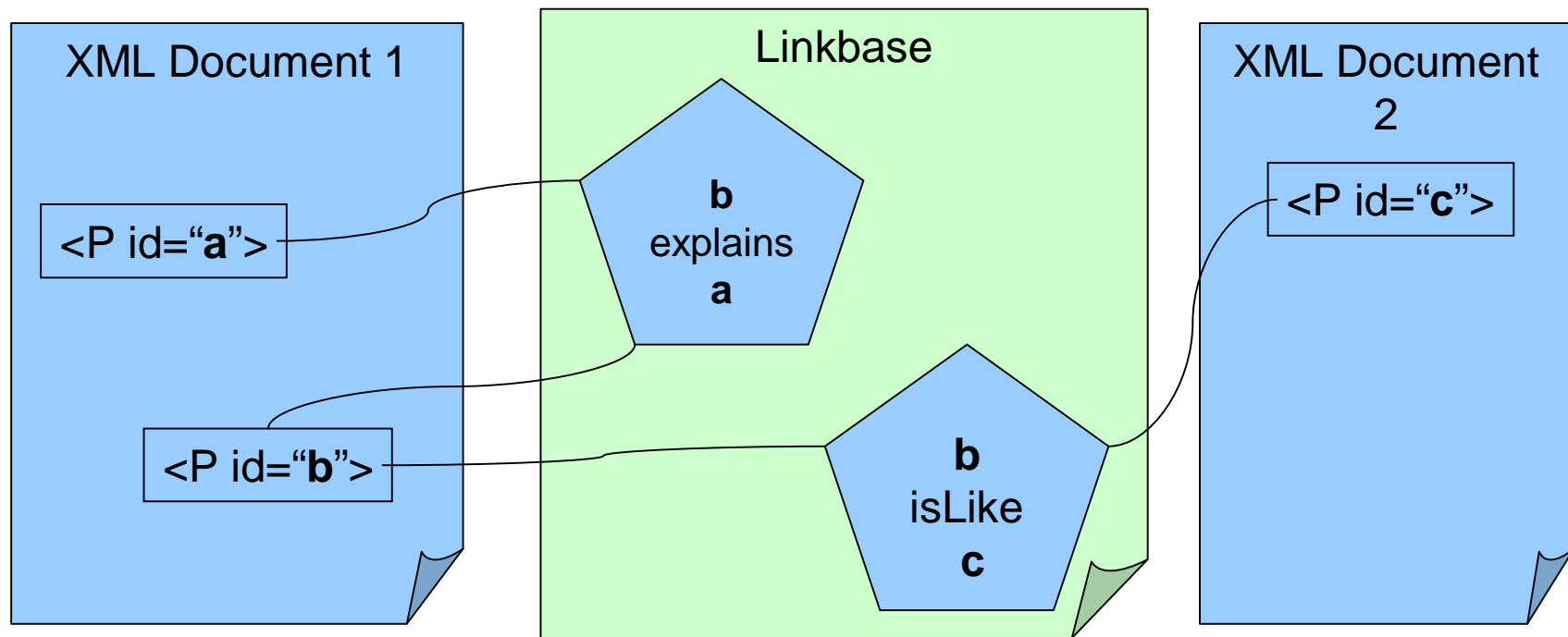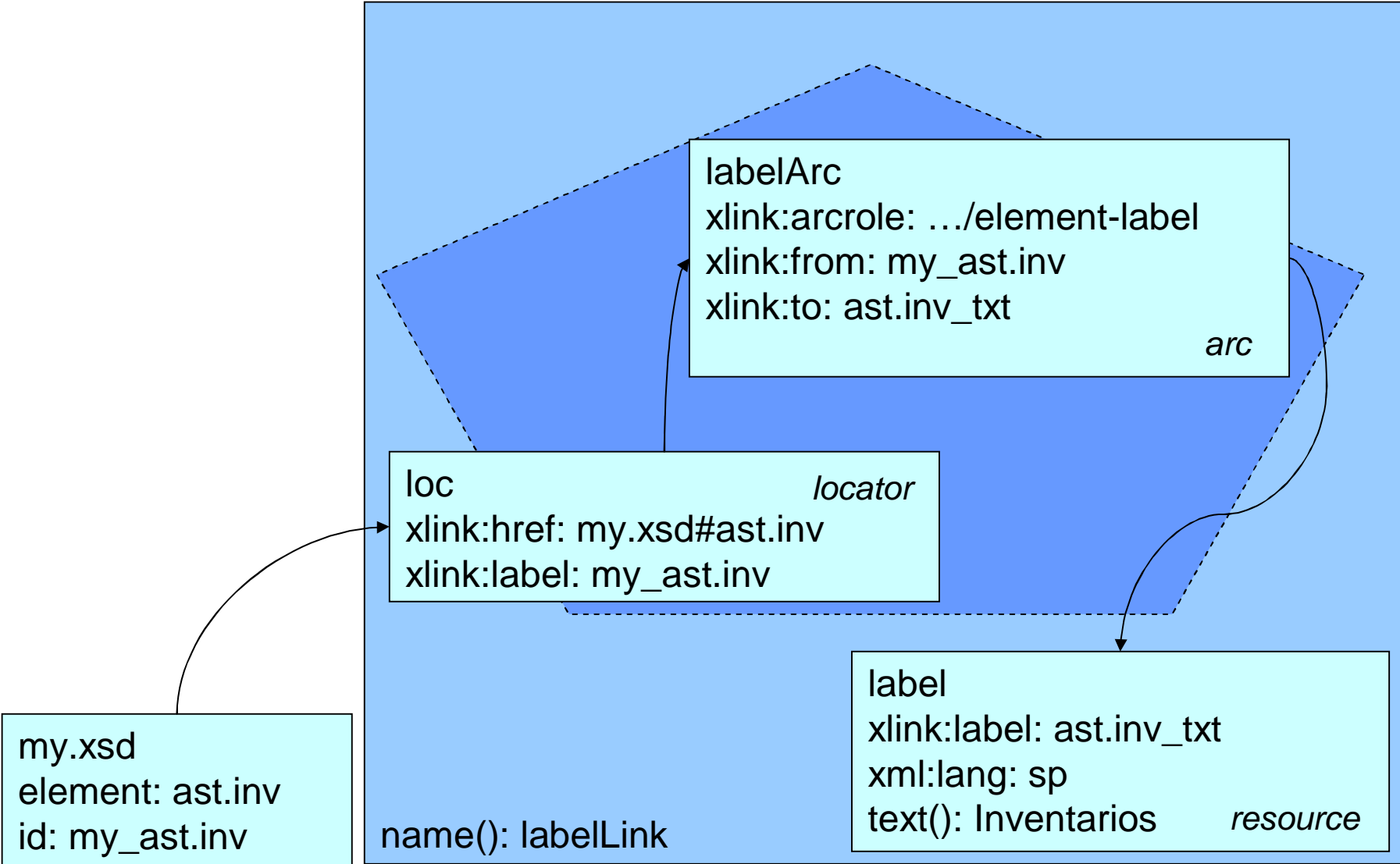
XBRL uses XLink to represent the relationships between concept elements
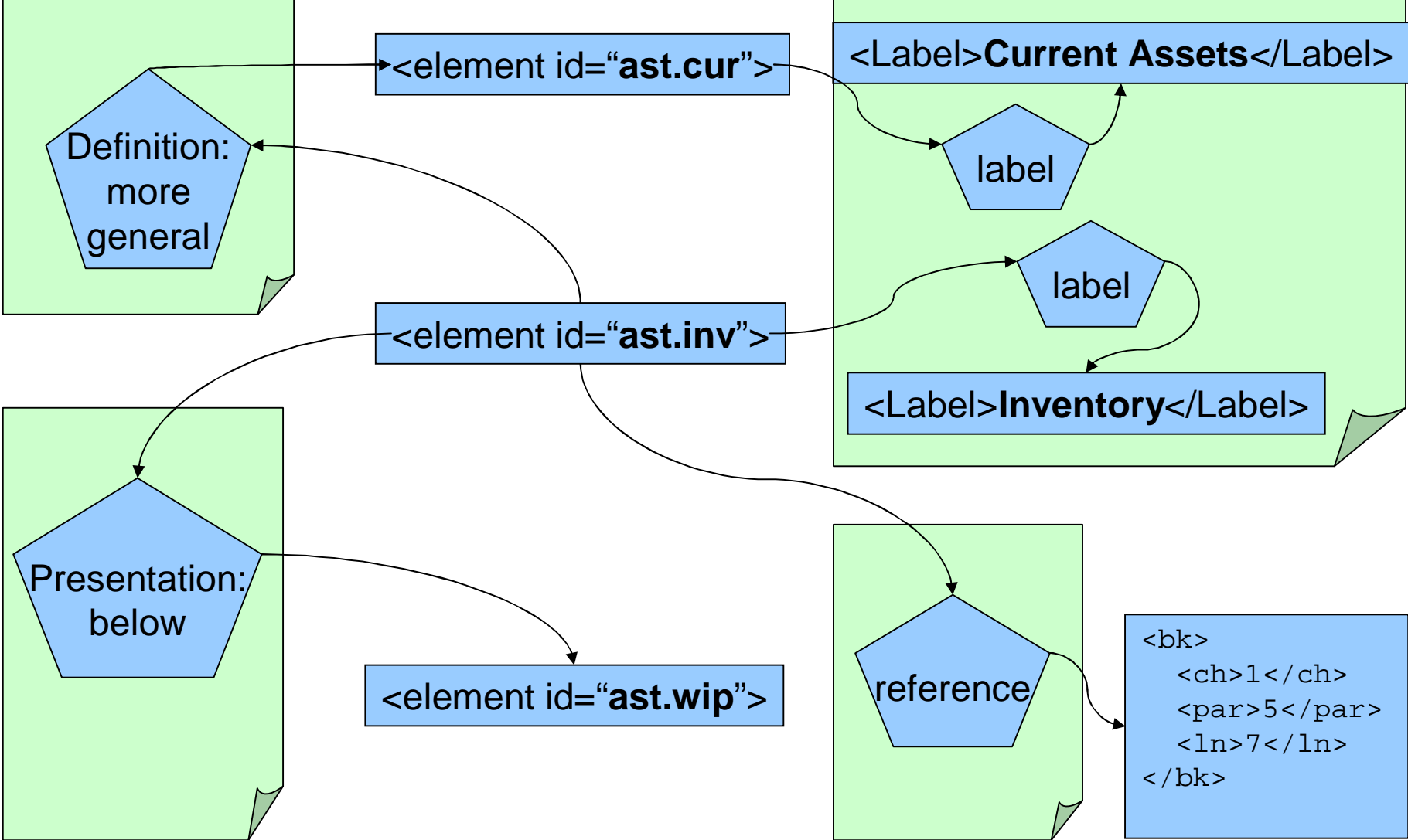
XLink allows customization and explicit, modular changes to reusable material

XBRL Linkbases as pure XLinks: The xlink:label attribute connects elements

labelArc
xlink:arcrole: …/element-label
xlink:from: my_ast.inv
xlink:to: ast.inv_txt

arc

loc   *locator*
xlink:href: my.xsd#ast.inv
xlink:label: my_ast.inv

label
xlink:label: ast.inv_txt
xml:lang: sp
text(): Inventarios   *resource*

my.xsd
element: ast.inv
id: my_ast.inv

name(): labelLink

XBRL Linkbases: Surface Syntax

```
<linkbase xmlns="…">
 <labelLink xlink:type="extended">
  <loc xlink:type="locator" xlink:label="cnv_RevaluoPropio"
   xlink:href="cnv-02-0901.xsd#RevaluoPropio"
   xlink:title="cnv_RevaluoPropio"/>
  <label xlink:type="resource" xlink:label="_d8ddda160e9"
   xlink:title="cnv_RevaluoPropio"
   xlink:role="http://www.xbrl.org/role#label"
   xml:lang="sp">Revaluo Propio</label>
  <labelArc xlink:type="arc" xlink:show="embed"
   xlink:from="cnv_RevaluoPropio "
   xlink:to="_d8ddda160e9" xlink:actuate="onRequest"
   xlink:title="Go up to: RevaluoPropio"
   xlink:arcrole="http://www.xbrl.org/role#element-label"/>
  <labelArc xlink:type="arc"xlink:show="replace"
   xlink:from="_d8ddda160e9"
   xlink:to="cnv_RevaluoPropio" xlink:actuate="onRequest"
   xlink:title="Go down to: cnv_RevaluoPropio__d8ddda160e9"
   xlink:arcrole="http://www.xbrl.org/role#label-element"/>
```

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XBRL Linkbases as Tables

TABLE labelLink-Loc

Label (PK)	href
cnv_RevaluoPropio	cnv-02-0901.xsd#RevaluoPropio

TABLE labelLink-Label

Label (key)	lang (key)	content
d8ddda160e9	sp	Revaluo Propio
f0ded1689b2	en	Property Revaluation

TABLE labelLink-LabelArc

From (key)	To (key)	arcrole
cnv_RevaluoPropio	d8ddda160e9	http://www.xbrl.org/linkprops/arc/element-label
d8ddda160e9	cnv_RevaluoPropio	http://www.xbrl.org/linkprops/arc/label-element

The Purpose of Each Linkbase

Label

- To associate a concept with one or more names or labels, depending on language, brevity, or other factors.

Reference

- To associate a concept with one or more supporting detail such as the places in authoritative literature where it is defined.

Definition

- Indicates for each concept whether it is a special case of some other defined concept or has other relationships.

The Purpose of Each Linkbase (cont.)

Calculation

- To indicate how one concept in a group of "sibling" concepts is related to the value of their parent concept.

Presentation

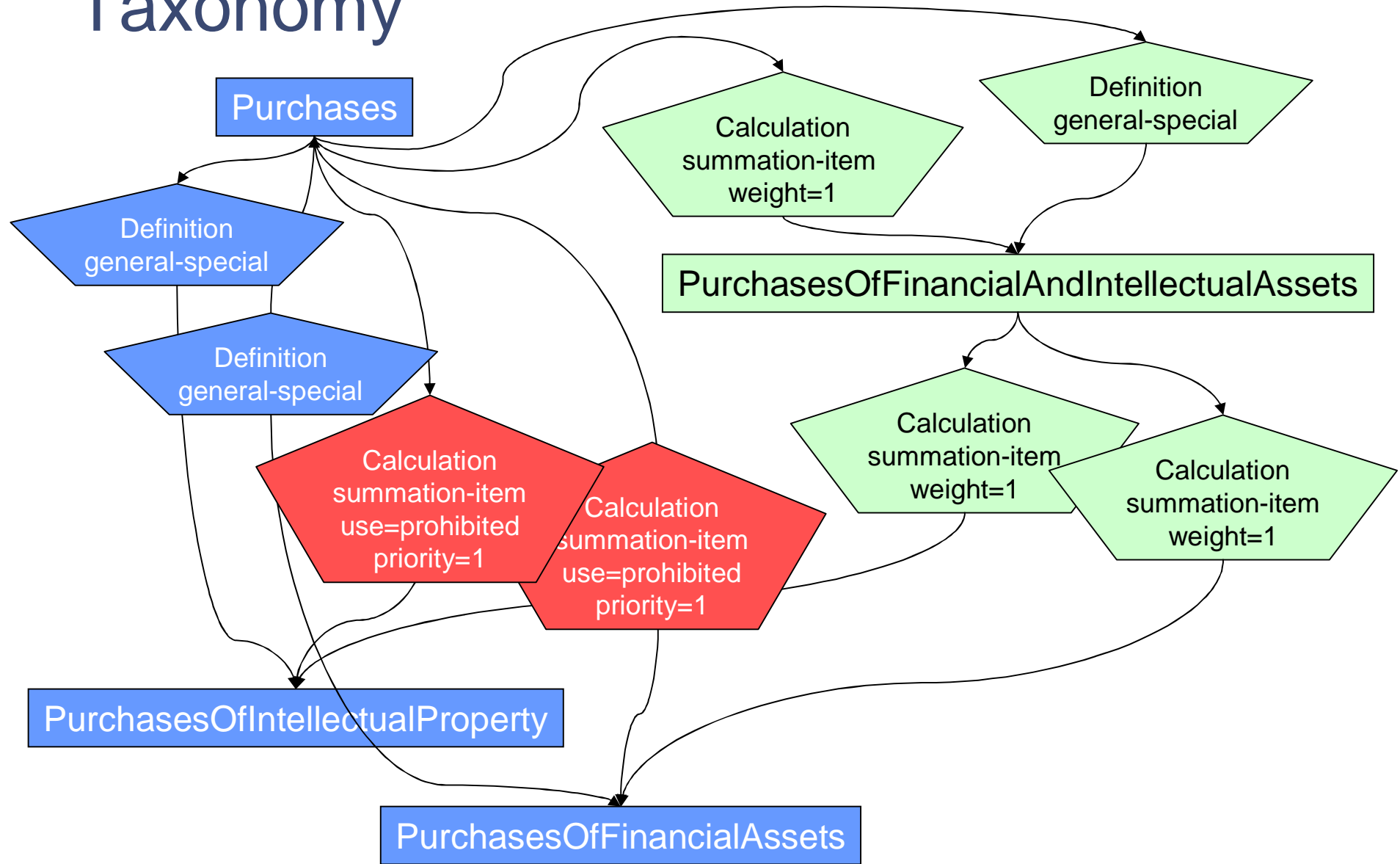- Indicate the order in which a concept should be presented when grouped with its siblings.

Formula

- To provide an expression for deriving data from concepts.
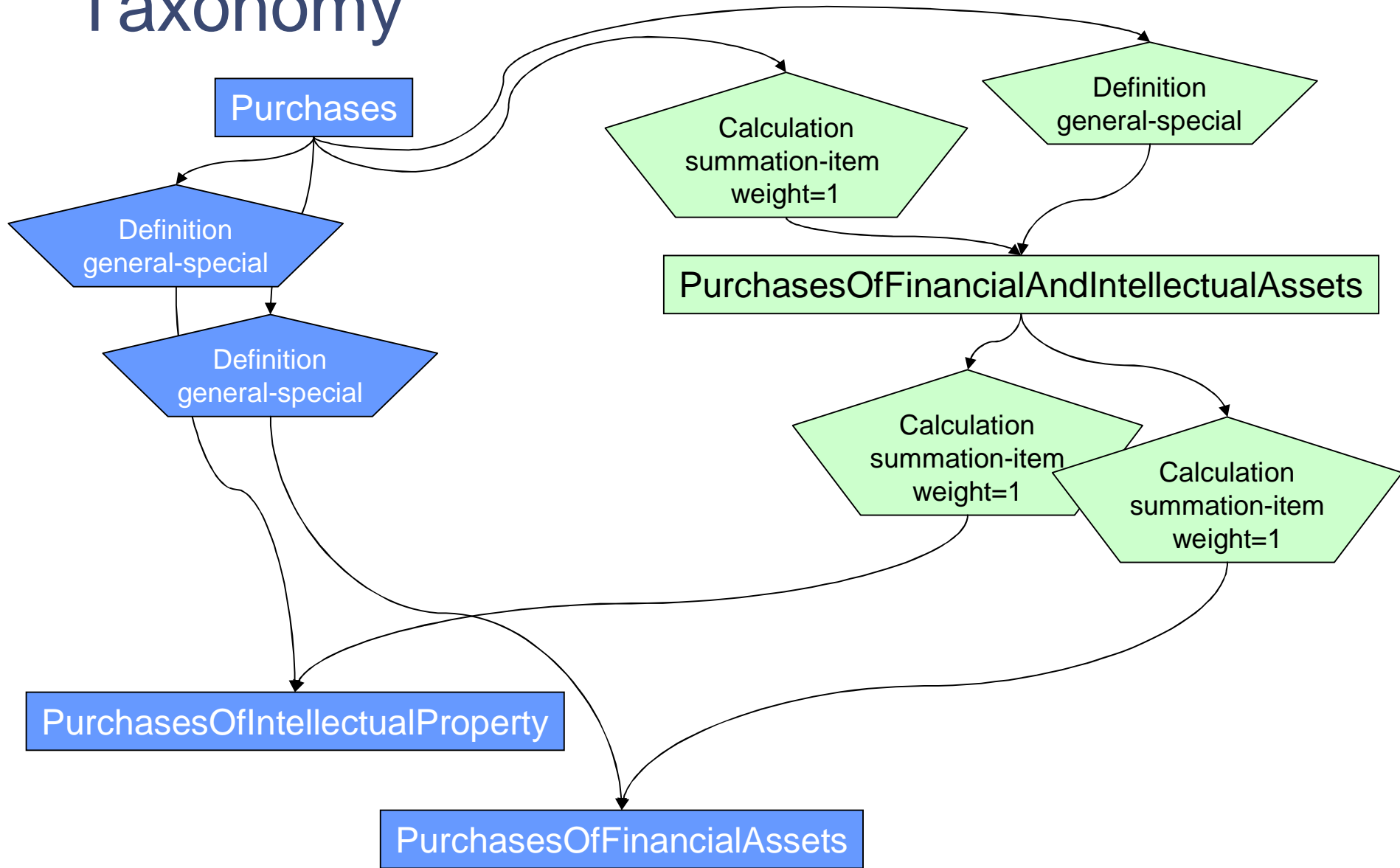
But the real purpose is extensibility…

Adding a Concept in an Extension Taxonomy
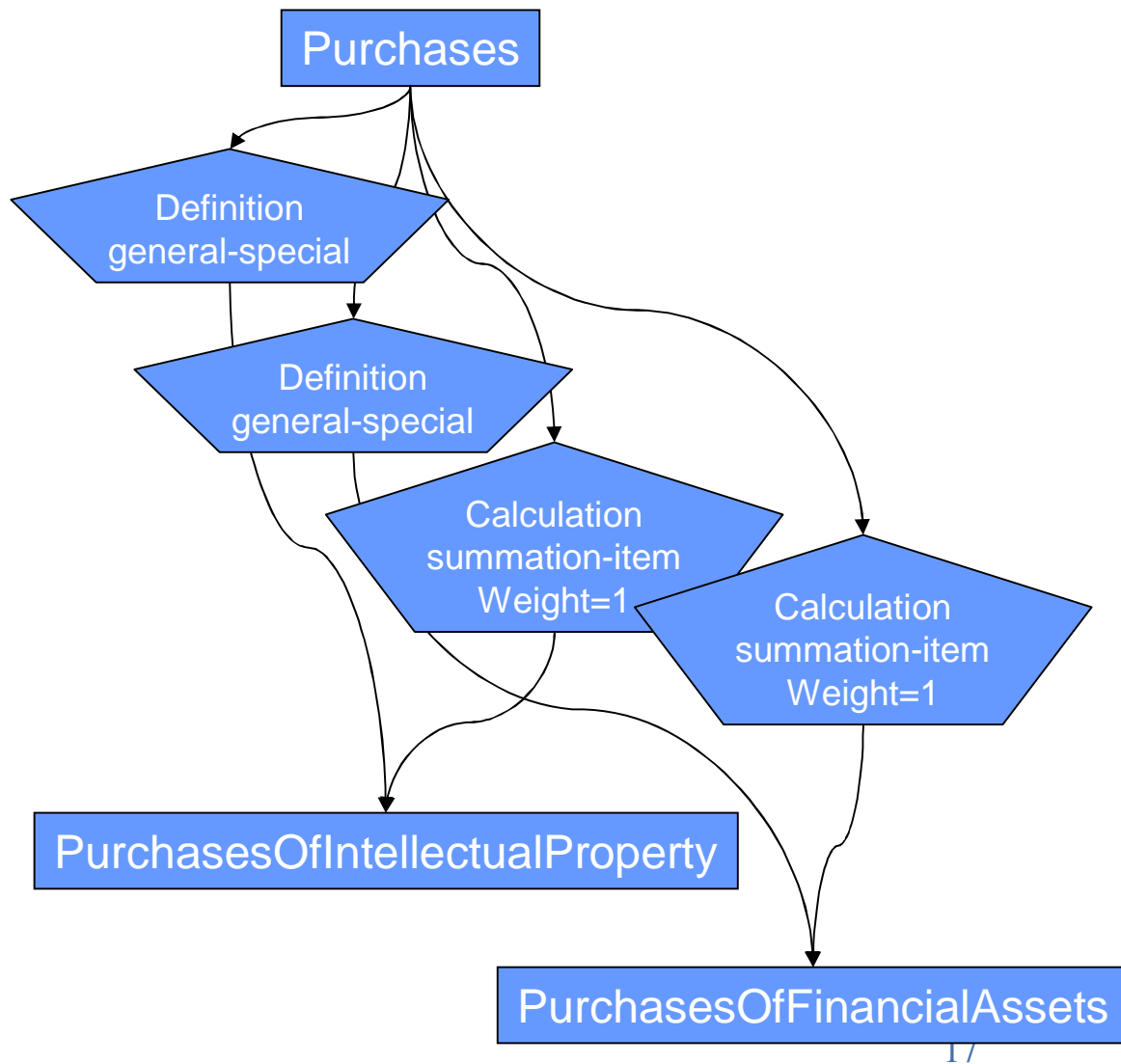
Adding a Concept in an Extension Taxonomy

Adding a Concept in an Extension Taxonomy

Sanction, Traction, and Technical Foundations

- Role of XML Schema in XBRL

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An XBRL Taxonomy is….

A dictionary of common terms

A standardized classification platform

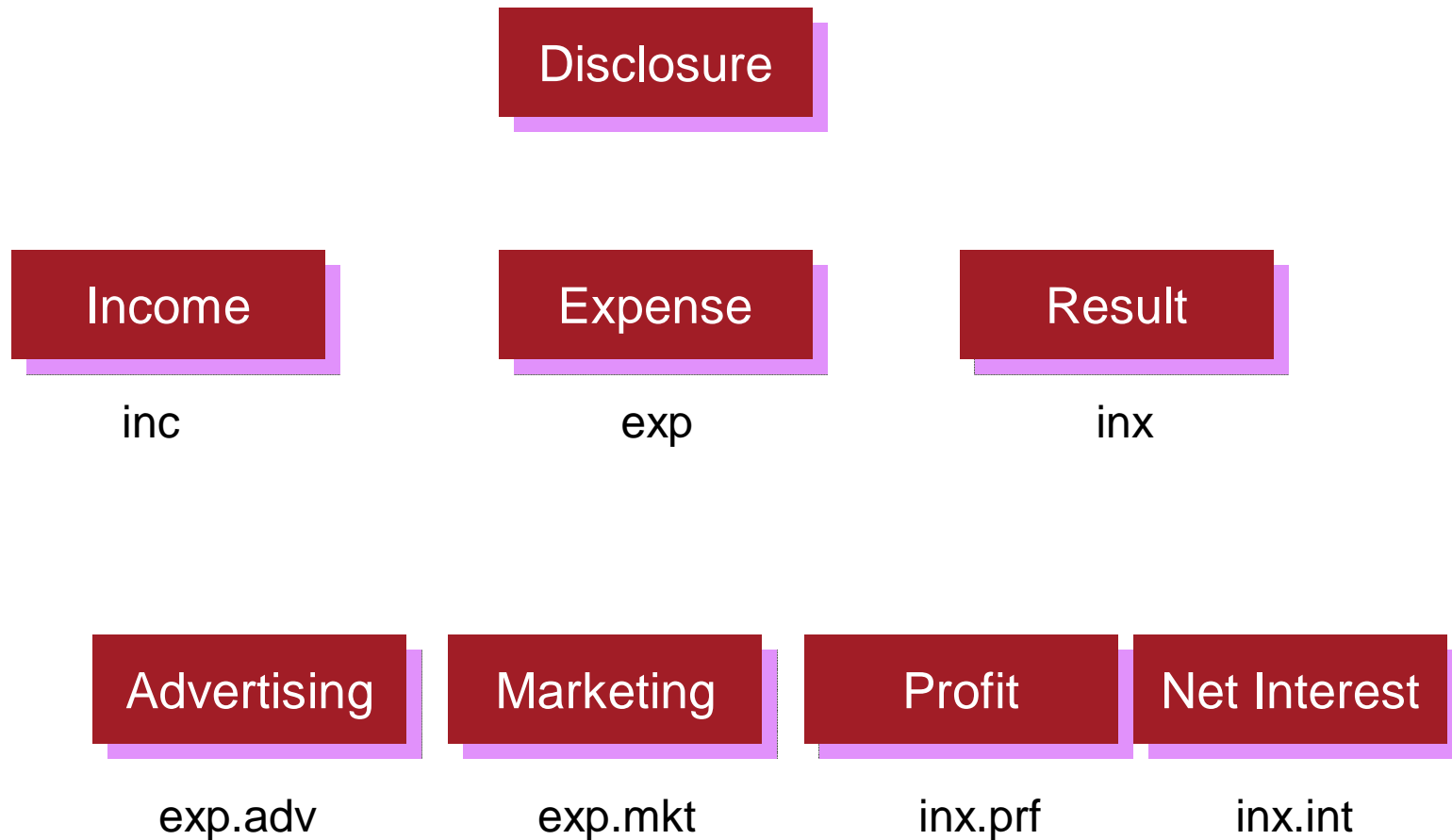A platform to articulate calculation concepts of the common terms

A platform to articulate business rules using the common terms

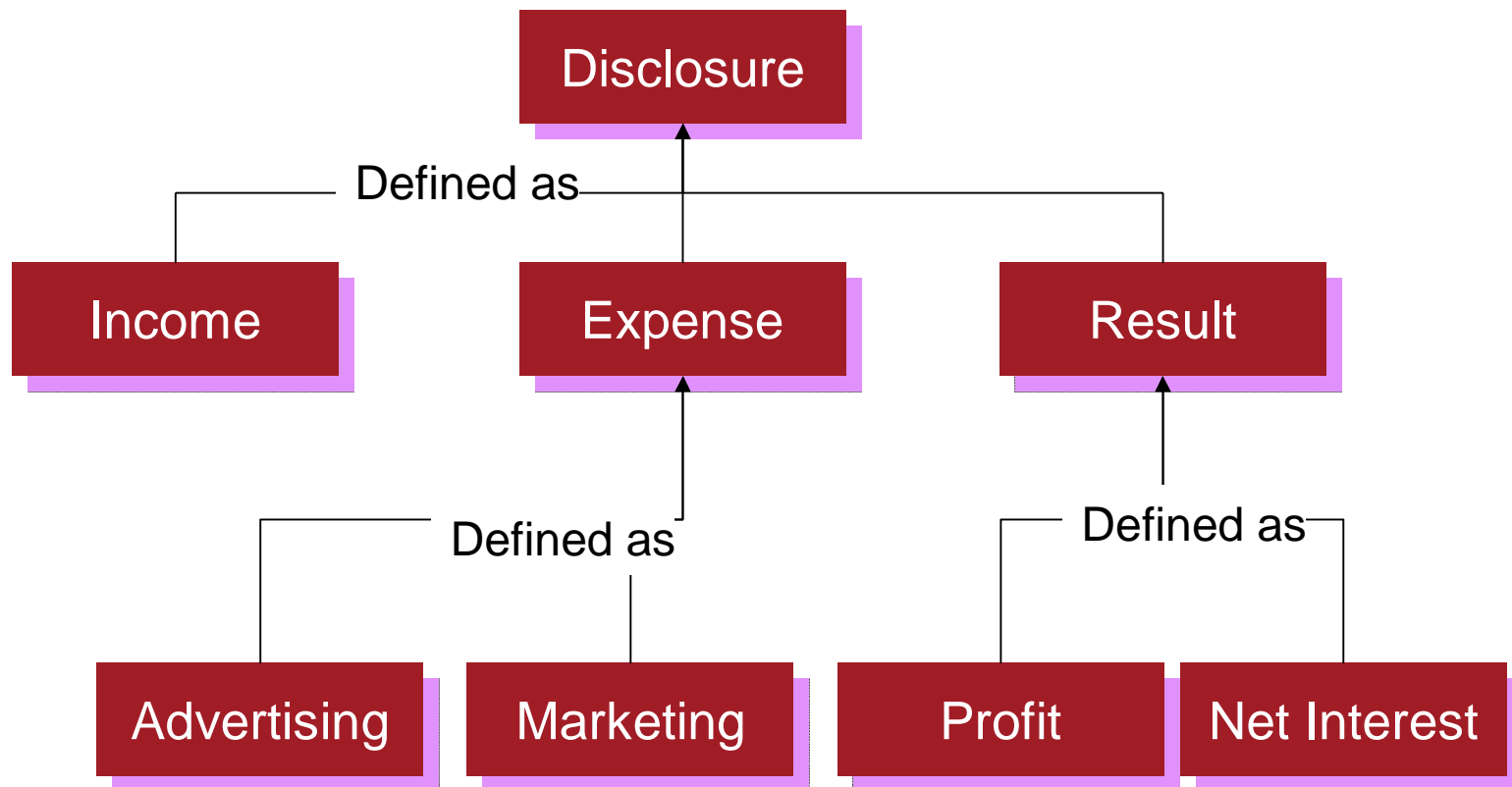A way to connect concepts to other concepts (e.g. other terms, objects, sites, services)

A flexible way to extend the common terms for new and/or unique concepts
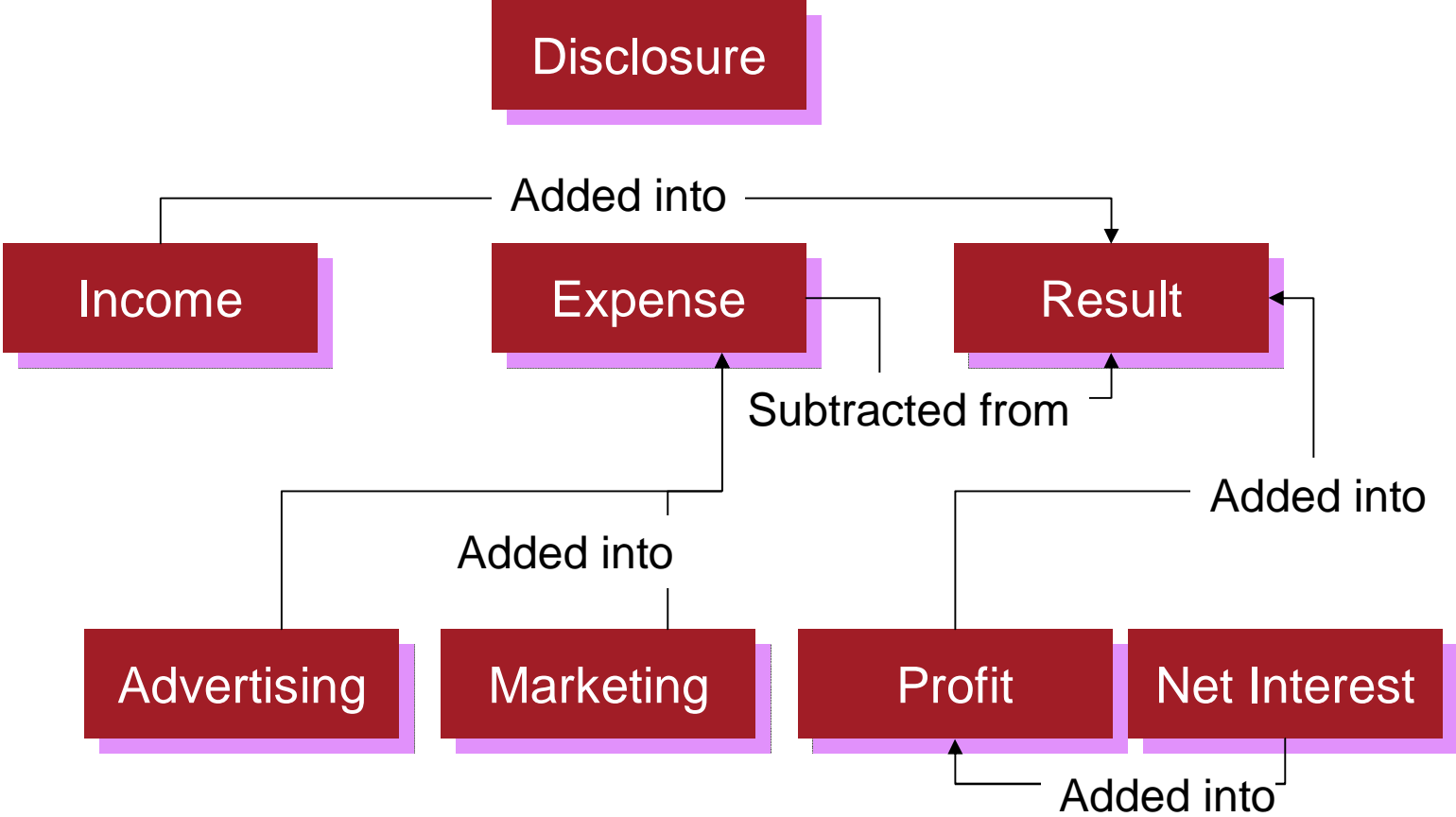
The product of a collaborative process
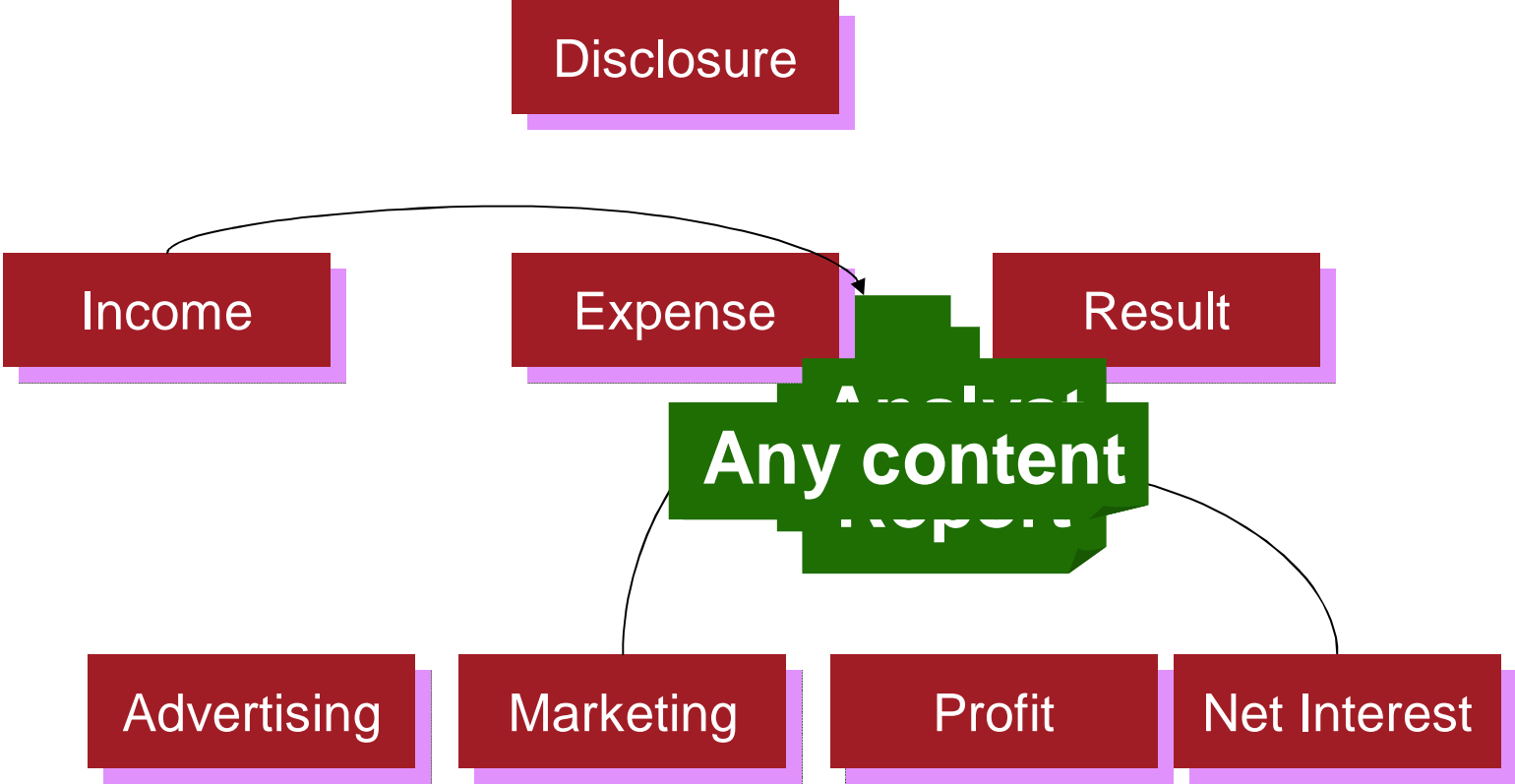
Taxonomy as Dictionary

Disclosure

Income — inc

Expense — exp

Result — inx

Advertising — exp.adv

Marketing — exp.mkt

Profit — inx.prf

Net Interest — inx.int

Taxonomy as Classification

Taxonomy as Calculation

Taxonomy as online reference

Taxonomy as Reusable Building Block