7. Understanding Financial Reporting Domain Semantics

The previous section Identifying and Defining Financial Report Semantics discusses the semantics of the financial report. However, there is another layer of semantics which needs to be considered: financial reporting itself.

Financial reporting domain semantics are also identified and articulated within the Financial Report Semantics and Dynamics Theory. This section explains there domain level financial reporting semantics.

7.1. Difference between report level model semantics and financial reporting domain level semantics

The report level model describes the financial report itself and uses terms such as network, table, axis, member, line items, concept, fact, and parenthetical explanation. Report level model semantics relates to the report itself, the pieces of the financial report and how that report mechanically operates.

A semantic model is basically a set of business rules specific to the domain to which the semantic model relates. As such, a semantic model is more specific and the terminology used within the model is likewise more specific. A semantic model for external financial reporting might use terms such as balance sheet, income statement, accounting policies, disclosures and assets, net income, and net cash flows.

Financial reporting semantics describes financial reporting. Not all of financial reporting is described, in fact only the beginnings of the financial reporting semantics are described here. What is described here is only the tip of the iceberg but it helps accountants understand what financial reporting semantics are and it articulates base or core financial reporting semantics which are impossible to dispute.

This foundation will undoubtedly be built upon. It is with these financial reporting domain level semantics where the real value of digital financial reports becomes clear.

In this section the example used will be for US GAAP financial reporting by public companies to the Securities and Exchange Commission (SEC). This example is used for the following reasons:

- There are lots of publically available digital financial reports which can be worked with to prove or disprove these semantics. Far fewer IFRS based financial reports are available today.
- Trying to explain both US GAAP and IFRS semantics would become confusing as they are not totally aligned yet. The financial reporting semantics at the level which we are working at here are fairly consistent, but not identical.
- IFRS semantics can be explained as a variation of US GAAP financial reporting semantics at some later time.
7.2. **Financial reporting conceptual framework**

Financial reporting has a conceptual framework. The FASB outlines this conceptual framework in CON 1 – 7.

Per the FASB, the conceptual framework for financial reporting has two primary purposes. First, it serves as a foundation upon which the FASB constructs financial reporting standards that are internally sound and consistent. Second, the conceptual framework is intended to be used by the business community reporting or consuming financial information to help them better understand and apply financial reporting standards.


- Providing a set of common premises as a basis for discussion
- Provide precise terminology
- Helping to ask the right questions
- Limiting areas of judgment and discretion and excluding from consideration potential solutions that are in conflict with it
- Imposing intellectual discipline on what traditionally has been a subjective and ad hoc reasoning process

As we shall see, the financial reporting conceptual framework breaks financial reporting into elements and financial statement components.

**NOTE:** The FASB and IASB are creating a common framework for financial reporting (see http://goo.gl/4fSqO). The framework is not complete, but it does offer insight into the pieces of a financial report.

7.3. **Financial report elements**

The financial report elements articulated by the FASB are:

- Assets
- Liabilities
- Equity
- Investments by owners
- Distributions to owners
- Revenues
- Expenses
- Gains
- Losses
- Comprehensive income

While this is not a complete set of financial report elements, it is useful for identifying and organizing concepts which characterize a financial fact.

Other financial report elements which are not outlined by the FASB and which could exist within a financial report include:
7.4. **Financial statement components**

Financial statement components are defined by the FASB as:

- Balance sheet
- Income statement
- Comprehensive income
- Statement of changes in equity
- Cash flow statement
- Related disclosures

“Related disclosures”, because the category can be quite large, can be further broken down into categories. These categorizations are used by the FASB Accounting Standards Codification (ASC). For more information see: [https://asc.fasb.org](https://asc.fasb.org) (note that a free basic subscription is available):

- Organization
- Consolidation related disclosures
- Basis of reporting and presentation of financial statements
- Significant accounting policies
- Financial statement accounts related disclosures
- Broad transactions categories disclosures

7.5. **Industries and reporting entities with certain activities have different reporting practices and therefore use the financial reporting conceptual framework differently**

Reporting entities that belong to different industries and that have different activities may have different financial reporting practices. However, all reporting entities and all types of activities fit within the financial reporting conceptual framework under which they are reporting.

It is practice that a corporation reports “Stockholders’ equity” and partnerships report “Partner capital” and that sole proprietors report “Owner's equity”; however, all three are “Equity” as defined by the financial reporting conceptual framework.

In practice a financial institution creates an unclassified balance sheet and general commercial and industrial companies create a classified balance sheet; but both types of reporting entities provide balance sheets.
While different industries and activities use components of the financial reporting framework differently, that does not change the financial reporting framework or change the fact that a financial reporting conceptual framework exists.

### 7.6. Common characteristics of financial facts exist

Some common characteristics that describe financial facts include:

- **Reporting entity** (which entity issued the reported fact; for example Microsoft or Google)
- **Legal entity** (to which legal entity does the reported fact relate; for example consolidated entity or parent holding company)
- **Report date** (what is the date on which the report was issued which contains the reported fact; for example the audit report date or the filing date)
- **Reporting scenario** (under which scenario was a fact reported; for example actual, budgeted, etc.)
- **Concept** or line item (what financial reporting concept describes the reported fact; for example Cash and cash equivalents, Assets, Net Income, etc.)
- **Period** (to which period does the fact relate; for example which year or, current period, prior period, etc.)
- **Business segment** (to which business segment does the fact relate; for example the consolidated entity, consolidation eliminations, subsidiaries or other business components)
- **Geographic area** (to which geographic area does the fact relate; for example all geographic areas combined, Europe, Asia)
- **Operating activities** (which type of operating activity describes the fact; continuing operations, discontinued operations)

Not all financial facts have all of these characteristics, but these are common characteristics. Other characteristics may also exist. Not all reporting entities which report financial information use these precise terms, however they use some term which basically means in essence what is outlined on the list above.

### 7.7. Financial report components may have core facts and relations common to all reporting entities

While not all financial reports have all facts in common, and different industries can have more or less in common, there are some core components which all entities have. These facts can be thought of as “key stones” or “corner stones” which hold a financial report together.

For example, these are financial reporting facts common to many financial reports issued by many type of reporting entity in many industries:

- Balance sheets always have “Assets”, “Liabilities and Equity” and “Equity” reported
- On the balance sheet, assets foots
- On the balance sheet, liabilities and equity foots
• On the balance sheet, equity foots
• Balance sheets balance
• Income statements always report net income (loss)
• On the income statement, net income (loss) foots
• Cash flow statements report net cash flow
• On the cash flow statement, net cash flow foots
• Net cash flow per the cash flow statement reconciles beginning and ending cash and cash equivalents
• Cash and cash equivalents per the cash flow statement and cash and cash equivalents per the balance sheet are the same fact
• Beginning and ending balances of equity per the statement of changes in equity agree with equity balances per the balance sheet

There could be other core components and relations, but the above are certainly true, if someone reports the statements. It is possible for a reporting entity not to have a cash flow statement or income statement. It is less likely for a company to not have a balance sheet.

To test the notion of these core financial report semantics, the Financial Report Semantics and Dynamics Theory tested 8,098 SEC XBRL financial filings. The following is an overview of the results obtained. Note that total results for all 8,098 filings were provided with additional breakdowns for the 30 Dow industrial companies, top 100 companies by total assets and top 1,000 companies by total assets.

<table>
<thead>
<tr>
<th>#</th>
<th>Test</th>
<th>All 8,098 Companies</th>
<th>30 Dow Industrial Companies</th>
<th>Top 100 Companies</th>
<th>Top 1,000 Companies</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Balance sheet reports assets</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>2</td>
<td>Balance sheet reports liabilities and equity</td>
<td>97%</td>
<td>96%</td>
<td>99%</td>
<td>99%</td>
</tr>
<tr>
<td>3</td>
<td>Balance sheet reports equity</td>
<td>97%</td>
<td>100%</td>
<td>100%</td>
<td>99%</td>
</tr>
<tr>
<td>4</td>
<td>Balance sheet balances</td>
<td>98%</td>
<td>96%</td>
<td>99%</td>
<td>99%</td>
</tr>
<tr>
<td>5</td>
<td>Cash flow statement reports net cash flow</td>
<td>98%</td>
<td>100%</td>
<td>93%</td>
<td>98%</td>
</tr>
<tr>
<td>6</td>
<td>Income statement reports net income (loss)</td>
<td>98%</td>
<td>100%</td>
<td>98%</td>
<td>99%</td>
</tr>
<tr>
<td>7</td>
<td>Income statement reports income (loss) from continuing operations</td>
<td>72%</td>
<td>72%</td>
<td>76%</td>
<td>78%</td>
</tr>
<tr>
<td>8</td>
<td>Entity name reported</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
</tr>
</tbody>
</table>

The importance of these cornerstone facts and relations is that they may form a foundation for a comparability framework. The presence of this category of facts might provide us with information about the specific types of components that are reported and the relations between components that must hold true if they are reported. They are the links in the integrity foundations for financial reports.

Different industries may have different core financial report facts common within certain components.
7.8. Reporting entities which created financial reports can be categorized into industries/activities

Industries and activities have unique financial reporting and accounting practices. The following is a summary of some reporting industries and the activities which a reporting entity may have:

- Commercial and Industrial (general, not classified into some other industry or activity)
- Agriculture
- Airlines
- Banking and Thrift
- Broadcasting
- Broker and Dealers of Securities
- Cable Television
- Casinos
- Contractors
- Development Stage Enterprises
- Extractive Activities
- Financial Services Title Plant
- Franchisor
- Health Care
- Insurance
- Investment Companies
- Motion Pictures
- Mortgage Banking
- Not for Profit
- Real Estate
- Records and Music
- Regulated Entities
- Retailers
- Software

Other industries and activities exist.

7.9. Financial analysts use certain common key financial ratios when analyzing financial report information

The following is a summary of some common key ratios used:

- Return on Investment
- Return on Equity
- Return on Total Assets
- Operating Profit
- Sales to Accounts Receivable
- Sales to Inventories
- Sales to Fixed Assets
- Inventory Days
- Debtor Days
- Corporate Liquidity
- Working Capital
- Current Ratio
- Quick Ratio
- Working Capital to Sales
- Interest Cover
- Debt to Equity
- Market Capitalization
- Dividends Per Share
- Dividends Cover Payout Ratio
- Earnings Yield
- Dividends Yield
- Price to Earnings Ratio
- Market to Book Ratio
- Capital Employed
- Working Capital Days
- Assets Employed
- Profit Margin
- Asset Turn
- Sales Margin
- Sales Turn

Other common key ratios exist.

7.10. Financial reports are a true and fair representation of the reporting entity’s financial information

Stating this in the opposite makes the statement above clear, “Financial reports are untrue and unfair representations of a reporting entity’s financial information.” Of course that statement is incorrect.

A financial report can be said to be a verifiably true and fair representation of the reporting entity’s financial information if it possesses certain traits which can be defined in general terms and for clarity are listed below:

- **Completeness**: Having all necessary or normal parts, components, elements, or steps; entire.
- **Correctness**: Free from error; in accordance with fact or truth; right, proper, accurate, just, true, exact, precise.
- **Consistency**: Compatible or in agreement with itself or with some group; coherent, uniform, steady. Holding true in a group, compatible, not contradictory.
- **Accuracy**: Correctness in all details; conformity or correspondence to fact or given quality, condition; precise, exact; deviating only slightly or within acceptable limits from a standard.

While these four notions which relate to the "trueness" and "fairness" must exist for every fact reported by a financial report, they also need to exist when considering the financial report in its entirety.

Two other notions help bring the notion of trueness and fairness of information at the fact and at the report level into focus:

- **Fidelity**: Fidelity relates to the loyal adherence to fact or detail; exactness. The representation of the facts and circumstances represented within a financial report properly reflect, without distortion, reality. High fidelity is when the reproduction (a financial report) with little distortion, provides a result very similar to the original (reality of company and environment in which company operates).
• **Integrity**: Integrity is holistic fidelity. Integrity relates to the fidelity of the report in its entirety, of all parts of a financial report, from all points of view. Integrity is holistic accuracy, accurate as a whole. Integrity is the quality or condition of being whole or undivided; completeness, entirety, unbroken state, uncorrupt. Integrity means that not only is each component of a financial report is correct but all the pieces of the financial report fit together correctly, all things considered.

### 7.11. Financial reports have traits which impact their quality

The following list expresses the traits of a quality financial report.

- **All financial report formats convey the same message**: A financial statement can be articulated using paper and pencil, Microsoft Word, PDF, HTML, XBRL, or other format. But while the format may change, the message communicated, the story you tell, should not change. Each format should communicate the same message, regardless of the medium used to convey that message.

- **Information fidelity and integrity**: A financial statement脚s, cross casts, and otherwise “ticks and ties”. The accountant community understands this and many times this fact disappears into unconsciousness because it is so ingrained. Of course things foot and cross cast; of course the pieces tie together. Said another way, a financial statement must be correct, complete, consistent, and accurate. Only trained accounting professionals who understand how the XBRL medium works can tell if all financial statement computations are properly articulated and verified to be correct.

- **Justifiable/defensible report characteristics**: Facts reported and the characteristics which describe those reported facts should be both justifiable and defensible.

- **Consistency between periods**: Generally financial information expressed within one period should be consistent with the financial information expressed within subsequent periods, where appropriate. Clearly new information will be added and information which becomes irrelevant will be removed from a financial report. Changes between report elements which existed in both periods should be justifiable/defensible as opposed to arbitrary and random.

- **Consistency with peer group**: If your company chooses one approach and a peer chooses another report element selection choice; clearly some good reason should probably exist. This is not to say differences would not or should not occur. Rather, why the differences exist should make sense. Generally financial information between two peers should be more consistent as compared to inconsistent.

- **Information renderings make logical sense**: Renderings of facts and characteristics which make up the components of a financial report should make logical sense. The financial report rendering should make logical sense without regard to the format of the financial report.

- **Clear business meaning**: A financial report should be unambiguous. The business meaning of a financial report should be clear to the creator of the financial report and likewise clear to the users of that financial report. Both
the creator and users should walk away with the same message or story. A financial report should be usable by regulators, financial institutions, analysts, investors, economists, researchers, and others to desire to make use of the information the report contains.

7.12. Financial reports are used individually, compared across periods, and compared across reporting entities

Financial reports are used in different ways by users including:

- **Analysis of a single financial report**: Analysis of one financial report of one reporting entity.
- **Time series analysis of reporting entity**: Two or more financial reports of the same reporting entity are compared.
- **Comparative analysis across reporting entities**: Two or more financial reports of different reporting entities are used.
- **Ratio analysis**: An analysis of a single financial report, a time series analysis, or a comparative analysis using ratios computed from facts within a report.

7.13. Reporting entity segment definitions are inconsistent in financial reporting literature

The segments into which a reporting entity can be broken down are defined inconsistently in the financial reporting literature. From FASB Accounting Standards Codifications, ASC 280 relates to the classification of assets and sometimes liabilities uses the terms operating segments and reportable segments of the business. ASC 350 which relates to impairment uses the term reporting unit. ASC 860 which relates to special-purpose entities and the master glossary uses the term business. ASC 360 which relates to long-lived assets uses the term asset groups and disposal groups.

As such, the following terminology is proposed:

- Consolidated entity
- Parent holding company
- Operating segment (ASC 280)
- Reportable segment (ASC 280)
- Reporting unit (ASC 350)
- Business (ASC 805)
- Asset group (ASC 360)
- Disposal group (ASC 360)