

# XBRL Is to XML as Lemonade Is to Lemons

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When you were growing up, did your parents ever say, “If Johnny Jones jumped off a cliff, would you jump off, too?” Many companies are “jumping off the cliff” when they hope that embracing XML will solve all of their problems, but they are finding that they have only managed to turn their *old* legacy data into *new* legacy data.

Last month I discussed the “Nine Degrees of Data Reusability,” a measurement scale where each level, or degree, represents one step closer to total data interactivity and reusability within a corporate information system and across different entities (such as business and financial partners, auditors, regulators, etc.). Positioning your specific environment along this scale provides useful indications about your present situation, the causes of the “data sustainability” challenges that you may be facing, a clear view of where you want to be, and what’s needed to get there.

To see how this theoretical approach can be applied to a “real” situation, here are two alternative scenarios that show the procedures that a fictional company, ABC Manufac-

turing, Inc., could put in effect to meet its data reusability challenges.

## The Company

ABC Manufacturing, Inc. produces after-market replacements for bumper cars. They currently use *SOUP* as their main enterprise resource planning (ERP) system and *Fastbooks* for inventory management. Originally, *Fastbooks* was the main corporate application prior to the migration to *SOUP* five years ago. Due to problems encountered during the transition, the decision was made to continue using *Fastbooks* for inventory management. The company’s payables and receivables processes are outsourced to XYZ LLC, a service provider that uses a proprietary software applica-

tion to process and manage them.

ABC’s internal and external reporting needs are fairly straightforward. More than 85% of the information—a fairly good percentage—comes straight from the *SOUP* ERP system. *Fastbooks* generates all the reports required for inventory management purposes and fits the needs of the various production units perfectly. Of course, manual work is necessary to integrate the relevant information for higher-level reporting needs. Each month, the AP/AR department incorporates the data on outstanding payables and receivables balances received from XYZ LLC.

ABC’s reporting needs include:

- ◆ Financial and production reports for top management.
- ◆ Data for the external auditors.
- ◆ Tax returns. (It should be noted that the tax authority has recently mandated the use of XBRL for filing.)

Now let’s look at two possible scenarios of how ABC Manufacturing, Inc. would deal with the challenges posed by an imperfectly integrated information system and the need to interact with external parties. Please refer to the November column for a complete description of the Degrees

of Data Reusability used here. The first scenario addresses format reusability (Degree No. 2). The second scenario addresses structural reusability with common grammar (Degree No. 5).

### **Degree of Reusability No. 2: Format Reusability**

In this first scenario, XML is the common format chosen to represent all the data.

When the decision was made to keep the inventory management separate from the main ERP system, there were obvious concerns that this would affect the overall efficiency of the internal reporting system and, ultimately, the return on investment of the new ERP system. The decision to use XML for moving data between two disparate systems is a substantial step forward compared to other conventional approaches, and it demonstrates the sensibility of ABC's top management in regard to the benefits of standards-based solutions.

Both *Fastbooks* and *SOUP* could import and export XML data. An internal XML data dictionary (an XML schema) was developed—requiring two FTEs (full-time-equivalent employees) for 60 days—to ensure that XML data extracted from *Fastbooks* could be imported (and “understood”) by *SOUP*. This raised the percentage of data that flowed automatically into the internal reports from 85% to 93%.

Since XYZ's proprietary software application couldn't handle XML as an import/export format, it wasn't possible to apply the same solution for exchanging the AP/AR data between the two companies. But XYZ committed to developing an application to convert XML into a CSV file format that could be imported automatically into their system and to

providing the conversion from CSV to XML when sending data to ABC. The automatic conversion never really worked, however, and XYZ manually entered the information received in its system. Since ABC only needed a summary report of the AP/AR position for its internal reporting needs, it was agreed that XYZ would provide that information in an Excel spreadsheet, which ABC's AP/AR department could reenter into *SOUP*. Retyping the information only required one-half FTE per month, and the incidence of typing errors was considered acceptable. Proper reconciliation procedures, which required one FTE per month, were established.

The external auditors were thrilled that ABC's data would be available in XML. This would allow an easy, automatic import into their XML-enabled auditing system. As a result, they granted ABC a substantial reduction in auditing fees (or, at least, offered additional services for the same fee). Various meetings were held before the end of the fiscal year in order to reconcile the XML schema developed by ABC with the detail and granularity required by the auditing system. But the reconciliation proved difficult, and it was decided to close the current fiscal year with the usual manual reconciliation of data, thus deferring the finalization of the automatic import to the following year. Consequently, the auditors charged their usual (full) fee—in fact, they had to charge extra because of the additional time spent trying to understand the non-standard schemas. The CFO commented to the CEO, “Looks like all we managed to do was turn lemonade into lemons.”

At the same time, the IT department and the office of the CFO held various internal meetings in order to

define the requirements for the automatic generation of the XBRL tax return filing from the available XML data. With the end of the fiscal year approaching quickly, it was decided that the XBRL filing could be generated manually. After all, once the data was available from the main system, it was just a matter of retyping it into an Excel file and converting that to the required format. With an estimate of two FTEs for five days to complete the task, it seemed like a very reasonable alternative. In actuality, the resources required were three times as much but were still deemed acceptable. A typing error in the Excel worksheet, however, ultimately resulted in \$85,000 of fees and penalties.

### **Degree of Reusability No. 5: Structural Reusability—Common Grammar**

In this scenario, XBRL GL, the standardized Global Ledger, is used as the common format to represent data from any application, and widely agreed upon best practices ensure that it is used consistently.

By using XBRL GL, ABC Manufacturing, Inc. had no need to develop an internal XML schema to exchange data between *Fastbooks* and *SOUP*. They simply adopted XBRL GL as the common “data dictionary.”

Since the application used by XYZ can't handle XML, it obviously can't handle XBRL GL. As discussed last month, XBRL GL is in fact two different, simultaneous agreements: (1) the semantic agreement on how to represent business and financial data through concepts, relationships, and enumerations in a consistent way and (2) the technical agreement on how to represent the semantic agreement within the XBRL specifi-

cation. To represent the semantic agreement, ABC developed a CSV representation of the XBRL GL data, and XYZ mapped that representation to their application.

No special meetings were necessary to agree on how to “translate” the proprietary XML data dictionary for auditing purposes since XBRL GL is a universal standard. The auditing application was able to import the data with minimal adaptation effort. The audit went exceptionally smoothly that year, and the auditors were happy to charge ABC the agreed-upon reduced fee.

The one-time effort to map the XBRL GL data to the XBRL taxonomy for filing the tax return required two FTEs for one day. Once that was out of the way, the tax return could be generated automatically with no need to retype any information. As a result, returns could be filed in the new format on time—without incurring any additional penalties or fees.

### **A Strategy for Today**

As these situations illustrate, even a sophisticated (and popular) solution like XML can be inadequate if it isn't part of a broader strategy. Although the second scenario is just over halfway through the Nine Degrees of Data Reusability, it not only provides important steps for a healthy, sustainable corporate information system where data is recycled and not retyped, but it's a solution that can be implemented today. ■

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