Edifact and the Book Trade

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The English-language book trade is a truly international business. It is appropriate that it is increasingly adopting EDIFACT (Electronic Data Interchange For Administration, Commerce and Transport), the recognized international standard for electronic trading communication.

EDIFACT grew originally out of the work of the United Nations Economic Commission for Europe. Its purpose is to provide a way in which information needed for basic trading communication (orders, despatch advice, invoices) can be exchanged between computer systems without human intervention. It is a multilayered family of standards which begins with a fundamental syntax, and extends to the definition of well over one hundred "United Nations Standard Messages" (UNSMs), as well as providing a tool kit for the definition of new messages to meet special needs. The underlying syntax has the status of an ISO standard. Messages, segments, data elements and code lists are published as a regularly updated Directory.

Like conventional trading documents, EDIFACT messages are sent in an envelope —an electronic envelope which identifies the sender and addressee and provides a means of checking the integrity of the transmission. The envelope carries everything that a communications network needs to know in order to ensure that the transmission arrives intact at the correct destination, though if it is sent over the Internet, which has its own standards, the EDIFACT envelope will need to be placed in an additional Internet "wrapper." In any case, the envelope will not be opened until it reaches its destination.

Inside the envelope, there may be a single message or a batch of messages. EDIFACT uses slightly different terminology from that of ANSI X12, the U.S. national EDI standard—so an EDIFACT *message* corresponds to an X12 *transaction set* — and sounds rather friendlier.

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Open up a message, and—as in X12—you will find that it is composed of segments, which in turn are made up of data elements. Here again, however, there is a difference. In X12, most transaction sets tend to be centered around a basic segment which is specific to a transaction unit—for example, an invoice line — and which carries all the data elements which are most commonly required for the transaction. Added segments are used for less common elements. EDIFACT, by contrast, builds everything up from a basic set of general-purpose segments which occur again and again in different messages, coded to indicate their meaning in each specific context. This gives EDIFACT greater flexibility, though it also makes it more difficult at first sight to relate an EDI message to the corresponding paper transaction, and it means that there often seem to be several different ways of achieving the same result.

Because of this inherent flexibility, and because until about five years ago EDIFACT was still evolving quite rapidly, it has been very important for an industry group to be able to work within a stable and well-documented subset of the complete standard. Under the name of "EANCOM," EAN International has developed and maintains the most widely-adopted subset for retail and distributive industries, among others. EDItEUR, the book trade's international EDI development group, chose from the beginning to work with EAN, and wherever possible to adopt the EANCOM subset.

There has been a long history of cooperation between the book trade and EAN International, most importantly on bar codes and product numbering. When EAN's article numbering system emerged as an international standard, and EAN-13 bar codes began to be required to enable books to be handled alongside other types of product, EAN and the International ISBN Agency agreed an arrangement which has allowed the trade to retain its own, much longer-established, ISBN product numbering system and to absorb ISBNs into the EAN-13 format. Working with EAN on EDI standards was a natural extension of this relationship; and because EAN is a major player in the worldwide development and promotion of EDIFACT, it gives the book trade an inside track which it might not otherwise enjoy.

From a US viewpoint, it is worth noting that the Uniform Codes Council (UCC) has adopted EANCOM as its recommended EDIFACT subset for US retailing and distribution companies to use in international trade, under the acronym "GEDI" (Global EDI).

So, within the EANCOM subset of EDIFACT, EDItEUR has been working for some six years to develop annotated message specifications and *Implementation Guidelines* for book trade applications, both in trading between publishers, wholesalers and booksellers, and in library supply. More recently, the scope of the work has been widened to include journal supply, between publishers and subscription agents, and between agents and libraries.

Seven EDIFACT messages have so far been fully implemented by EDItEUR: quotation (QUOTES), purchase order (ORDERS), purchase order response (ORDRSP), purchase order change (ORDCHG), order status enquiry (OSTENQ), despatch advice (DESADV) and invoice/credit note/debit note (INVOIC) . (X12

experts will notice that while X12 transaction sets have numbers such as 850 or 832, EDIFACT messages have six-letter names or, perhaps more accurately, labels.) Other messages are under development—for example, for communication between publishers' distribution centres and shipping companies, and for authorizing returns between bookshops and publishers.

The current release of EDItEUR message documentation is based on EANCOM 1997. New releases, upgrading the messages to a more recent EDIFACT Directory, can be expected every three years or so. EAN, and EDItEUR, policy is to ignore intermediate EDIFACT Directory upgrades, in the interests of keeping the standards stable. EDIFACT itself, however, is now mature enough as a standard to ensure that updates to basic transaction messages are almost always upwards compatible.

With time, and increasing experience, EDItEUR's approach to both developing and documenting EDIFACT for the book and journals trades has become less message-oriented and more application-oriented, emphasizing the business process or cycle into which a series of messages must fit. So EDItEUR *Implementation Guidelines* each describe a particular business cycle, and detail how EDIFACT messages are used in that particular context. EDItEUR *Message Specifications*, which are annotated versions of the EANCOM specifications, reproduced by permission of EAN International, are in effect reference manuals which give the complete definition of each segment and data element, but they are not the best starting point for the newcomer.

EDItEUR and BISAC recently started a major joint program of mapping the latest BISAC X12 transaction standards to EDIFACT. The aim is to ensure that by the end of 1999, EDItEUR documentation will have been upgraded to incorporate the functionality now available in BISAC, reflecting U.S. and Canadian book trade practice. (So far the temptation has been resisted to refer to this as a Millennium project.)

"Live" implementation of EDIFACT messages in book trade applications is proceeding unevenly but at an ever-increasing pace. One of the reasons why it is uneven is the commitment to X12 in North America and to TRADACOMS, the British counterpart to X12, in the UK. Nobody is going to lightly abandon systems and standards which are working well for domestic trading. By contrast, domestic book trade systems in countries which never had a national EDI standard—Finland, Sweden, Denmark, Italy for example—find it natural to adopt EDIFACT from the beginning. And some countries which already had "proprietary" electronic ordering systems in the book trade are moving to EDIFACT, as has happened in Germany.

In the English-speaking world, library supply is leading the trade in the adoption of EDIFACT. Partly this is because academic library supply is inherently an international business. Partly it is because individual libraries do not develop their own EDI systems, they depend on a library systems supplier; and the library systems suppliers, who themselves have an international marketplace, want to be able to develop one approach which will serve as many of their customers as

possible. So it is natural that they should favor the use of an international EDI standard.

And for international EDI trading at any level of the supply chain there is no doubt that EDIFACT and the EDItEUR message implementations are now established as the recognized standard. While we can expect X12 and TRADACOMS to continue in domestic North American and UK trade use for many years to come, it seems reasonable to forecast that both domestic and international library supply, worldwide, will be using EDIFACT sooner rather than later; that EDIFACT will be the domestic and international trade standard for all those countries which have escaped the mixed blessing of having had a "first generation" national EDI standard such as X12; and that EDIFACT will be the international trading standard for us all.

Meanwhile, the underlying EDIFACT syntax is not standing still. Version 4 is completing ISO approval procedures. There are three new areas of functionality which may prove to be significant for future book trade developments. First, the new syntax will support interactive sessions as well as the present store-and-forward "batch" transmission. Second, there will be provision for carrying non-EDI data "objects" in an EDI transmission. Third, there will be support for the UNICODE character set, which is, among other things, the standard for Internet developments, allowing almost any known alphabet to be uniquely represented. So while there is much discussion of radical new methods of communicating business data between remote computer systems, EDIFACT will remain a valid and well-supported standard for the future as well as for the present.