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**SWP 29/90 SURVEY OF ELECTRONIC DATA INTERCHANGE USERS
AND SERVICE PROVIDERS IN THE UK - REPORT FROM
EDI-89 CONFERENCE, LONDON**

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ELECTRONIC DATA INTERCHANGE: THE LONGER TERM EFFECTS ON INTERNATIONAL TRADE

Introduction:

This series of working papers has been prepared as part of the early work in a new programme of research, based at the Cranfield School of Management. The topic for research is the "Longer term effects of Electronic Data Interchange" on business, in the United Kingdom, Europe, and elsewhere in the world.

Contents:

Seven working papers are available, as follows:

Topic	Date
Glossary of EDI terms and acronyms	18th July 1989
EDI: Technical Opportunity or Business necessity?	18th July 1989
Survey of EDI users and service providers in the UK	October 1989
An update report from the "EDI '89" conference in London	6th November 1990
EDI and advanced information processing - the way ahead	15th September 1989
EDI Standards and the Single European Market	11th September 1989
The effects of EDI on the financial sector	18th December 1989

Acknowledgement

We are grateful to the **International Foundation for Artificial Intelligence** and to the **Cranfield Ecotechnology Research Centre**, without whose support and encouragement this project would not have been possible. We are also grateful to the authors who contributed to the different papers; the author and source of each paper is detailed on the cover sheets.

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Introduction

"EDI '89" was the premier EDI conference in the UK in 1989. There have been very many smaller ones - some focusing on special areas - but none that approached the size and scope of EDI '89. The event was attended by about 550 delegates most of whom already use EDI in their business, and (more important?) most of whom consider that they are using EDI assertively in their relations with their EDI partners. There was only a very small minority of non-technical "business" delegates, and the question of how to pass the message about EDI up to senior management was one of the recurring themes of the conference.

There were, over the three days, twelve plenary presentations and very many special interest presentations in "breakout" sessions. In all there were 90 speakers. The printed proceedings are available from Andy Bytheway. Clearly it would have been impossible to attend all the presentations, and the chosen course was to cover all topics to some extent, but with a bias towards the financial services sector.

There was an exhibition of EDI products and services. A wide selection of literature was collected including two videos dealing with EDI: one from the conference organisers and one from the Department of Trade and Industry.

Summary comments on the UK position

It is clear that the UK still leads the rest of Europe in most respects of EDI, particularly in terms of volume. The UK accounts for 70% of all EDI traffic. In Europe, 90% of all EDI activity is *within national boundaries*; it might be expected that as international trade builds up this will change. Differences across Europe accrue from the different legislation that prevails in the different countries: in the UK the provision of communications services is now very de-regulated but in other countries this is not so. In some countries there can be difficulty in acquiring network services and appropriate communications equipment.

Development in the use of EDI in business is matched by development of EDI standards. EDIFACT now provides some 30 standard messages (compared with five just a short time ago) and there are another 24 on the way. EDI users are learning to develop their own message formats (within the EDIFACT guidelines) as needed, and registration of new message standards is a problem.

UK Use of EDI

A good measure of the number of UK EDI users comes from the growing membership list of the EDI Association (EDIA). Even without any full-time staff the membership has grown to 250. EDIA is now being properly established and it is significant that the chairman designate - Keith Blacker of Lucas Industries - works for a major EDI user.

The membership of the EDIA is largely made up from the "dominant" EDI users - the companies that insisted that their suppliers (or customers?) adopted EDI practices because



they had the stronger position. It is estimated that for every dominant EDI user there are between 10 and 20 subsidiary users; on this basis the total number of EDI users is now about 4000 companies, and this estimate is confirmed by information from the primary service and network suppliers. Nevertheless, we must expect that the trend in the future will be for the existing EDI users to make *more use of the services* as well as seeing a simple increase in the user-base.

The paragraphs which follow make summary comments about EDI users who spoke at the conference.

Manufacturing

o Texas Instruments (electronics)

TI now offer a *two-hour turnaround* for routine customer requirements; this would be impossible without EDI. Even so, only four people dedicated to support of European EDI.

o Lucas (automotive systems)

Keith Blacker gave a well-considered overview of how EDI is permeating Lucas's *supply and distribution chains*. There are even some industry chains which include non-Lucas operators (which are "surrounded" on either side by Lucas-owned plants and factories). Lucas have a vision of EDI-based *international trade* which includes several additional levels: eg Freight Forwarders, Movers, Port Authorities and Customs Authorities.

Lucas experience has exposed some *risks*: for example a customer company which directed all incoming EDI to a internal "print queue" (within their mainframe computer) which was never released! When discovered it contained several weeks-worth of EDI information that had never been looked at! There are clear signs that EDI can not be seen in isolation: EDI at the level used by Lucas makes *great demands* upon the core systems of a company, which have to be in very good shape for EDI to be successful.

There are other operational problems; for example customers might use EDI to place orders but they can still change their minds. One of Lucas's EDI partners ordered freely but never sent a lorry to pick up the goods!

o Rowntree (Confectionery)

A senior IS manager from Rowntree gave a presentation of EDI clearly pitched at the business level, and his discussion was firmly based in the *overall supply and logistics chains* that Rowntree use to operate. Their commitment to EDI was clearly evident. "*The maximum meaning with the minimum data*" was one phrase that illustrated their thinking.

Engineering

o British Coal

British Coal is a long-term user chasing the *simple economic benefits* of EDI. They were one of the few organisations to provide a "user-manager" as a speaker (the



Supply and Contracts Manager). They had a clear view of three levels of EDI benefit - "the blindingly obvious", "the obvious" and "the not so obvious", but he admitted that EDI had been seen primarily at the first level.

Public Sector

o Health Service

Apart from the well-known use of EDI in Customs and Excise, the Health Service (the largest employer in the country) is moving quickly into EDI. They see far more substantial benefits than the simple ones, for example the ability to quickly and accurately initiate drug recalls and to amend quickly their supply contracts. The development and integration of *online drugs databases* and *drug catalogues* could become a European issue. The movement of *medical data* (patient records) is also under consideration.

Insurance

o LIMNET and RINET (London Insurance Market Network and Re-Insurance Network)

These network development programmes are now well under way. There are question mark over the emergence of *two different networks* (although it can be argued that they are aimed at different segments of the insurance business); users have already said that they *do not want* many different screens on their desks, nor do they want to learn several different *system-user interfaces*. LIMNET is seen by its sponsors as providing:

- o an EDIFACT-compatible service based on
- o common systems and services,
- o to maintain London's position in the world insurance markets,

and the project is getting all parties involved. As well as providing EDI facilities for structured transaction data it is providing electronic mail facilities as a substitute for telex.

Although the benefits at the risk-placing stage are marginal, the key feature of these UK developments is that it will be possible to settle claims *within 12 hours*. Thus the LIMNET mission is as much (if not more) about *customer service* than internal efficiency. The core facilities of LIMNET should have been available by now but there are delays. Additional extended facilities will be made available over the next year or two.

Banks

The banks are in an interesting position - on the one hand they like all large organisations desperately need access to the benefits of EDI (the Nat West bank gets *40,000 telephone bills* which require remittances to *120 different addresses*) and on the other hand they need to provide it for their own customers. They seem to have done very little to date, other than the existing CHAPS and SWIFT services which have been in place for some time now. The risk of *independent* settlement and trading arrangements on the EDI networks is now stirring the banks into visible action. There are signs that they now understand the concept of



"adding value" to the information that passes through their hands, and we must expect radical developments.

Presentations from the Nat West and Midland Banks left the conference in no doubt about their intentions: as might have been anticipated the banks have to date been waiting to observe developments. They seem totally confident of their own future; this might result from un-announced EDI products or from a simple blind faith in their ability to survive. Others are not so confident that the European banks will survive EDI in anything like their present form, and the general attitude to the banks at the conference (amongst the delegates) was rather antagonistic.

Standardisation of routine banking messages is proceeding and the work covers payment orders, credits and debits, and remittance advices. A wide variety of other messages are also scheduled for development.

Service Providers

The service providers were represented at the exhibition and gave certain presentations. In general these were avoided on the grounds that the suppliers will always be willing to talk about their offerings. As well as *INS*, *ISTEL*, *DEC*, *McDonnell Douglas* and *IBM* a large number of smaller service and product suppliers were represented. (Details of the suppliers and their relative positions have been provided in other working papers in this series.)

Having said this it is worth highlighting the presentation by *INS* - the only one attended. They were putting out a clear and significant message: they are pushing away from the networking level (this has been sold off to Mercury) and they are pitching the products and services at the level of functional business need, both at the generic and specific levels within the business. They have been studying outputs from MIT (The Sloan School of Management) and their strategy was very confidently presented.

One might expect that *ISTEL*, who were recently bought by AT&T, will match these developments (if they have not already done so). More time needs to be spent establishing contact with the EDI supply-side operators.

Trends

Ray Walker - Chief Executive of SITPRO and a key player in the EDI field - reported a great deal of interest in *Eastern Europe*. They have already implemented some facilities themselves, but he highlighted the importance of the United Nations as the only truly global organisation that can deal with EDI on a world-wide basis. Given the new open approach in several of the Eastern block countries the importance of EDI in emerging trade patterns is very likely to be very significant.

There is a recognition that *standards are not the major issue*: neither the absence of standards nor a multiplicity of standards are a significant barrier to the adoption of EDI. The costs relating to EDI standards are small compared with the less tangible costs of changing the substance of the business. It is the *attitude of business people* to EDI that is the major issue.



Throughout the conference the notion of *three levels of benefit* recurred many times:

- 1 EDI saves up to 50% of the mundane operational costs;
- 2 EDI re-shapes the existing business;
- 3 EDI changes the nature of the supply chain and creates new business.

The speaker from INS (see above) quoted the work of the Sloan Management School (MIT) extensively, and this identifies a *five stage model* of application and benefit for EDI:

- 1 Localised exploitation;
- 2 Internal integration;
- 3 Business process re-design;
- 4 Business network re-design and
- 5 Business scope re-definition.

In the MIT model the degree of transformation of the business and the extent of the benefit increases markedly in the latter application areas. This question of the evolution of EDI in its application and scope in the business is, as was expected, a key feature of the current developments. These simple models help us to see the way that EDI will mature both within a company and within a whole industry.

The application of EDI is extending more into the service industries, and is developing from a simple order/invoice basis (in the retail and manufacturing trades, for example) to much more sophisticated applications. David Butler highlighted trends as

- o new kinds of competition,
- o the transformation of markets,
- o the re-distribution of business functions between suppliers and customers, and
- o co-operation between peer groups that would otherwise not prevail,

thereby further reflecting the view that it is the level of the *whole industry* or the *marketplace* that is important in EDI, not the technology.

Another recurring theme was the idea of the "willing community" as a basic pre-requisite of successful EDI. The greatest benefits at the broadest level, and *conventional business management models* such as the "Value Chain" and the "Porter Competitive Forces" models were evident in a number of presentations.

The final plenary speaker - Colin Bell of AT&T UK - gave a very humorous but indicative presentation on the future. He foresaw a process of sweeping "dis-intermediation" as the use of EDI leads to the *elimination of middle-men and agents*. He predicted the widespread use of *expert systems* as a key component of international trading systems, and - at some stage - a *global economic crisis* derived from the instability of new systematic international trading activities that no single person will possibly be able to understand. He saw the *processes of government* increasingly becoming just a passive monitoring role as regulation becomes an integral part of trading systems, and he predicted *only three surviving major PTT authorities*: BT, AT&T and NTT. Finally, he predicted the *dominance of the Japanese banks* in world finance.



International footnote

A representative of Singapore Network Services (SNS) gave a very competent presentation of what can only be described as *extraordinary progress* in developing not only the hardware and software technology of the SNS network but also full support services and *integration with regulatory systems* in the Customs and Banking areas. SNS provide *gateways* into the Port and Airport systems. They are developing a *procurement system* which will be yet another example of an electronic marketplace. Clearly, Singapore is making great progress and deserves watching.

