

DISSEMINATION OF OFFICIAL LABOUR MARKET STATISTICS IN THE UNITED KINGDOM

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The UK Government Statistical Service has a policy of making as much information available and readily accessible as possible, whilst preserving confidentiality. To effectively carry this policy through, the Statistical Services Division of the UK Employment Department has mechanisms in place for identifying the needs of customers and how these can be satisfied. The use of electronic methods of dissemination is an integral and major part of Statistical Services Division's dissemination strategy. Electronics methods of dissemination have proven to be very effective in satisfying customer demand. Further improvements are anticipated as a result of recent technology.

PART I – GENERAL INTRODUCTION

1. INTRODUCTION

1.1 The UK Government Statistical Service's policy is to make as much information available and readily accessible as possible, whilst preserving necessary confidentiality. This is reflected by the stated aim of the Employment Department's Statistical Services Division, as published in the Department's Annual Report, which is:

“to ensure that Ministers and their officials have a relevant, reliable, timely and cost effective supply of the statistical information they need to develop, manage and report on UK labour market policies; and to ensure that labour market data are made publicly available”.

1.2 The mission statement of the CSO, perhaps more succinctly states the underlying purpose of all UK statistical services which is:

“Our mission is to improve decision making, stimulate research and inform debate within government and the wider community by providing a quality statistical service”

1.3 To carry through a policy of informing and stimulating debate requires effective data dissemination. Whilst paper remains the most desired form of receipt

for most users of UK labour market statistics, dissemination involves more than just publishing statistical tables. Ever increasing use is being made of electronic means of dissemination; be this by the development of added value publications using feature full desk top publishing (DTP) or, a plethora of services centred around government databases. Two key electronic dissemination tools in ED statistical services Division (SSD) is the National Online Manpower Information System (NOMIS) and the labour market data bureau of the Labour Force Survey.

1.4 This paper describes the key planning activities involved in creating a dissemination strategy and reflects on some of the developments within ED SSD. The paper concludes with a brief look at the technological areas for future developments.

PART II – DEVELOPING A STRATEGY FOR DISSEMINATION

2. THE INFLUENCES ON A DISSEMINATION STRATEGY

2.1 The diagram at the end of part II, illustrates some of the influences and, in turn, some of the issues related. Those given are explained further.

Customer:

Each customer will have different requirements depending upon the purpose of the request. The requirement will vary upon information needed and format of supply; some examples being:

- local unemployment figures
- skills breakdown in area for last 5years
- produced on maps, pie-chart etc
- printed tables
- electronic transfer.

It will also be necessary to look to the new markets where a particular requirement might dominate. Currently Government ministers are the key drivers.

Government:

Government bodies are limited in how much they are able to emulate a commercial organization. Rules govern retention of financial reward, service expansion (most recently affected by market testing) and other restrictions.

The European Community will require the collection of stated common data and in time will require its export to a central system.

The role of Government organizations will continue to be under review and so because of this clear objectives, both long term and short term, must be developed.

Technology:

It is difficult for an organization to embrace all technology. UK Government statistical divisions are normally part of a larger organization where it is important to conform. Government statistics also has use of many technologies covering different hardware platforms. As a result it is often inappropriate to follow one particular course of development.

However, these problems are now being recognised as a limitation to IT development by computer suppliers and therefore the gulf between hardware, software and proprietary systems is beginning to narrow.

Technology is still expensive where, document encryption, to a standard required by confidentiality policy, is required. Standard networking would not permit transfer of secret documents. Opening up systems to the public will also have repercussions regarding government security and possible data integrity.

A most limiting factor to technology development in dissemination is the pace of development within the customer community. The most common IT facilities are telephone and television. Unless it is the intention to exclude the mass public, development will need to observe the most convenient form of transfer. To the mass market this will still be paper.

It could be that paper will continue as an appropriate medium for documents as scanning technology continues to improve. As paper can be dispatched simply either by post or fax, quickly appraised for fitness of purpose, and then image scanned in to a local computing facility for manipulation and reworking. A PC fax already takes this a step nearer.

Exploiting the telephone networks for information access, has still a long way to go.

Timescales:

The quality and depth of information will be dictated by timescales and deadlines for answers. This might enforce a method of collection being employed that limits the value of information to its one key purpose. It is therefore important that a dissemination policy looks more widely to other data management issues such as collection and storage.

If preparation work is transferred to third parties, then they too will set standards and have necessary restrictions on resource or turnaround time. If dissemination of all Government statistics were to be outsourced it would not be so easy to introduce change or provide information variants.

Security:

The Data Protection act restricts the use of personalised information other than for the purpose for which it is being held. Therefore there will always need to be protection on the data, in particular where an observation within a small sample would indirectly identify an individual.

Service Standards:

There is now a need to recognize the rights of an individual when delivering service. This right is demonstrated by the UK initiative of the Citizens Charter and also by the recognition in the business world of service quality standards such as those provided by BS5750 or the international equivalent ISO9000. Both standards are developing more formal guidance on the expectation of a services provider.

2.2 DEVELOPING A DISSEMINATION STRATEGY

The creation of a strategy demands not only a process for identifying the need of current and potential customers and how these can be best satisfied, but also a clear concept of the role to be played by the organisation in meeting these needs.

Once such decisions have been made the organization must examine its own management of services to ensure that variation in operation is kept to a minimum and that there is effective use of resources.

While there are significant advantages to be gained from the greater and more sophisticated use of information technology, these advantages will not be fully realised without an underlying dissemination strategy.

* *How can a strategy be used?*

- to meet long term and/or short term objectives
- in containing disparate services.

* *Where might an organization apply these uses?*

Long term objectives: Business structure; where clear market targets exist and deviation is handled through regular review.

Short term objectives: Management control; the setting and examination of particular targets or objectives.

Containing: Product control; working within a corporate guideline and managing product deviation.

* *Is "Information" the product or the business?*

The generation of labour market data is the business of an organization. A product is the delivery of information as determined by the customer.

* *What dissemination is possible by Government organizations?*

- as a service providing added interpretation
eg Statistical consultancy: customer specific enquiries provided with in depth analysis and set in a context relevant to the need.
- as fixed self contained tables of information
eg Databank: Collection of fixed self contained information sets. Though this information can be transported to a new environment, the user is aware of the limitations and Government offices will have more control over access and usage.
- as an open database for interrogation
eg Exploratory database: safe only to informed people with an understanding of Government statistics.

* *Why the distinction?*

Data are provided from many backgrounds eg different time series, different sample sizes, from different supplier groups. For this reason it is dangerous to allow un-informed people to cross analyze between information as this can lead to incorrect conclusions.

Much time and effort is spent by professionals to ensure that accurate and balanced information is provided from a wide range of sources.

* *What formats and how will each be delivered?*

Paper:–

- circulation list,
- enquiry request to supplier,
- public press,
- public offices (library etc)

Video/teletext:

- Available over public service networks,
- Videotext will allow interaction and down loading of details.

Distributable electronic media:

- Circulation lists,
- enquiry request to supplier,

Central data:

- Remote terminal access,
- touch–phone or voice interrogation,
- via third party enquiry.

2.3 DOCUMENTING THE STRATEGY

2.3.1 The following key headings are likely to appear in a dissemination strategy. These headings are not exhaustive and neither are they obligatory but they do usefully illustrate the range of elements which are encompassed by a dissemination strategy.

The mission statement:

The fundamental purpose, goals and values of the organization.

Objectives:

The objectives of an organization will expand upon the critical success factors referred to in the mission statement. For the purpose of this paper the statement from the CSO in part I would clearly be the dissemination objective.

Strategy statement for the objective:

The statement addresses areas of key importance within the objective and provides key performance criteria, measurable and quality statements.

Possible statement components:

- | | |
|-----------------------------|--|
| Customer service level:– | Priorities
Service level agreements
Product standards etc |
| Data collection:– | Burden on data providers
Requirement for reply
Data formats |
| Data security & integrity:– | Physical security
Protection of the individual
Processing standards
Analysis and output standards |
| Cost & pricing policy:– | Budget deployment
Information valuation
Dissemination methods
Guidelines |
| Technology policy:– | Standards
Methodology
Service suppliers |

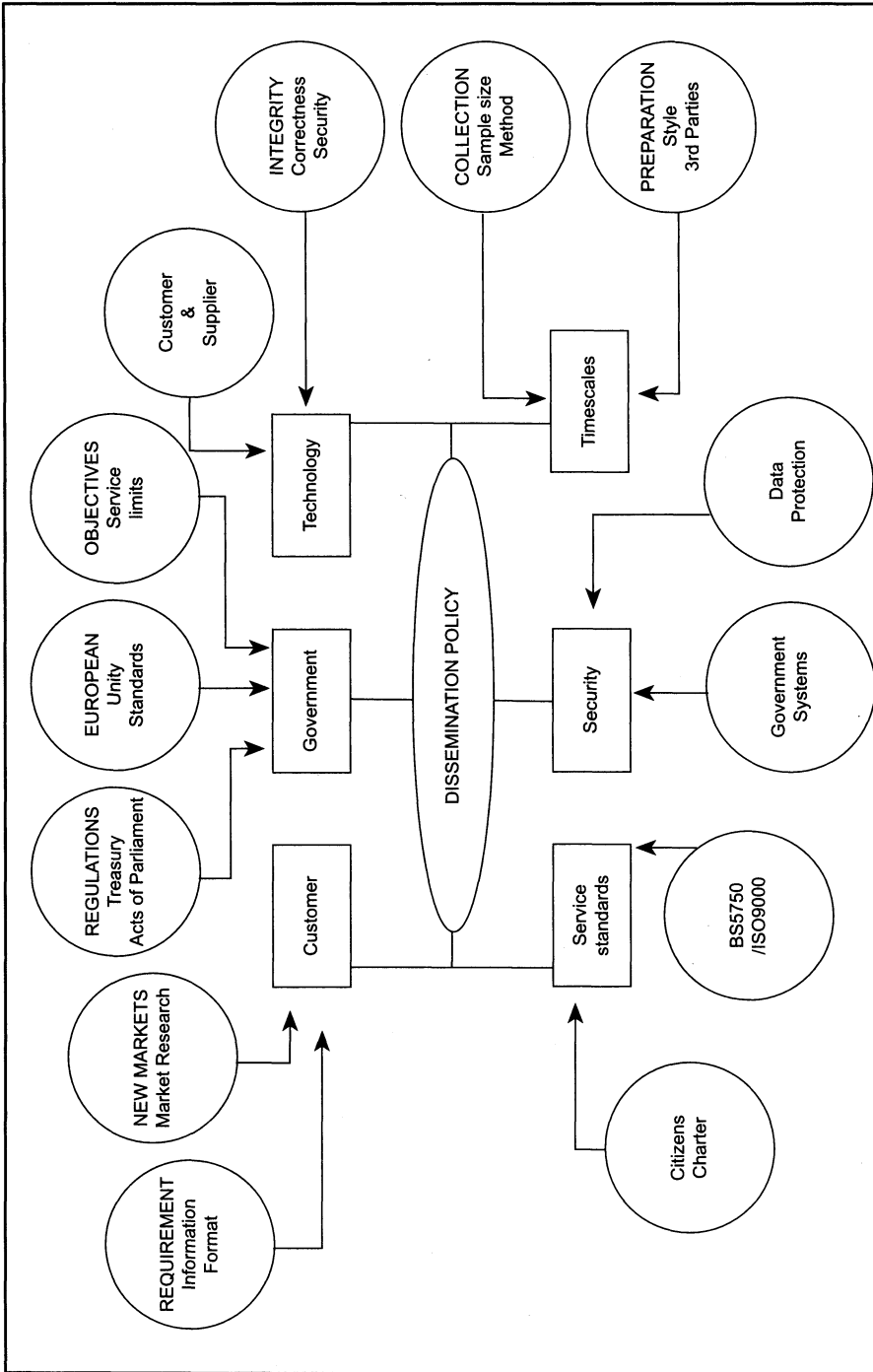


Diagram 1.

Corporate Image:–	Complementing organizations
	Marketing strategy
	Corporate identity
	Staff development

PART III – A DESCRIPTION OF THE SSD DISSEMINATION ACTIVITIES

3. ED SSD DISSEMINATION ACTIVITIES.

3.1 SSD are aware that it will be necessary to tackle each of the influences at graduating levels ie appropriate to the product and as an overall strategy. SSD is a very established ED division and has IT systems which reflect some twenty years of progressive development. During this period it has seen many initiatives and social issues impact upon what type of data has been collected and which has been disseminated.

3.2 Therefore a number of systems have been developed as core to ED statistics and these systems must be seen as a focus for future developments. Their technology base must be seen as providing the direction to future collection and dissemination policy in the future.

3.3 Having recognised this, a conscious effort has been made to bring a control and standard to new or re-developments. The Department has standardised upon the development environments of both mainframe and smaller systems. This includes the recognition of Unix as a key platform for client/server developments.

3.4 The National Online Manpower Information System (NOMIS) is at the heart of ED public and government reference dissemination. The system has recently be transferred to a UNIX environment to provide opportunity for greater service development and also conformity with other ED SSD IT systems.

3.5 Market research is seen as an integral part of service control and is referenced in the quality standard reference BS5750 and international equivalent ISO9000, and is a standard expected in competitive organizations. SSD intends to expand its market research and will take steps to ensure that it operates as a total quality management organization.

PARTICULAR DISSEMINATION DEVELOPMENTS

3.6 National Online Manpower Information System (NOMIS).

3.6.1 NOMIS is a nationally networked on-line information system containing an extensive range of Government statistical information on the UK labour market.

The system is run by the University of Durham under contract to the Department of Employment and is available to all who wish to subscribe, both in the UK and internationally.

3.6.2 The range and accessibility of the data from NOMIS has seen its popularity grow and is used by private sector companies, academia, local authorities and government departments.

3.6.3 NOMIS plays a key role in the Department's dissemination activities as all revisions or updates to major information datasets are available on-line at the moment of official publication. NOMIS contains over 60 datasets and will soon hold all major ED reference surveys. The databank currently consumes 33 gigabytes and is growing.

3.6.4 NOMIS permits interrogation using a wide range of standard or customer defined geographies down to the smallest administrative area of scale available and can also be expressed graphically using map drawing services. Any analyses are strictly within UK government's statistical service and EC data protection guidelines therefore preventing identification of individuals.

3.6.5 NOMIS is available to all customer types but because of the range of datasets is of particular interest to the business community and regional development organizations.

3.7 ECONOMIC & SOCIAL RESEARCH COUNCIL (ESRC)

3.7.1 Data archives are resource centres for analysts who use data for research and teaching. The function of data archives include:

- ensuring that data are preserved against technological obsolescence and physical damage;
- cataloguing their technical and substantive properties for information retrieval;
- supplying them in an appropriate form to secondary users for further analyses.

3.7.2 The ESRC Data Archive at the University of Essex houses the largest collection of accessible computer-readable data in the social sciences and humanities in the UK. It is a national resource centre disseminating data within the UK and internationally.

3.7.3 The ED provides many of its data sets to the ESRC and by so doing is assured that the information is extensively available through-out the academic community.

3.7.4 The ESRC provides information in many formats including SPSS and Quantum two of the emerging standards within the ED statistical services division.

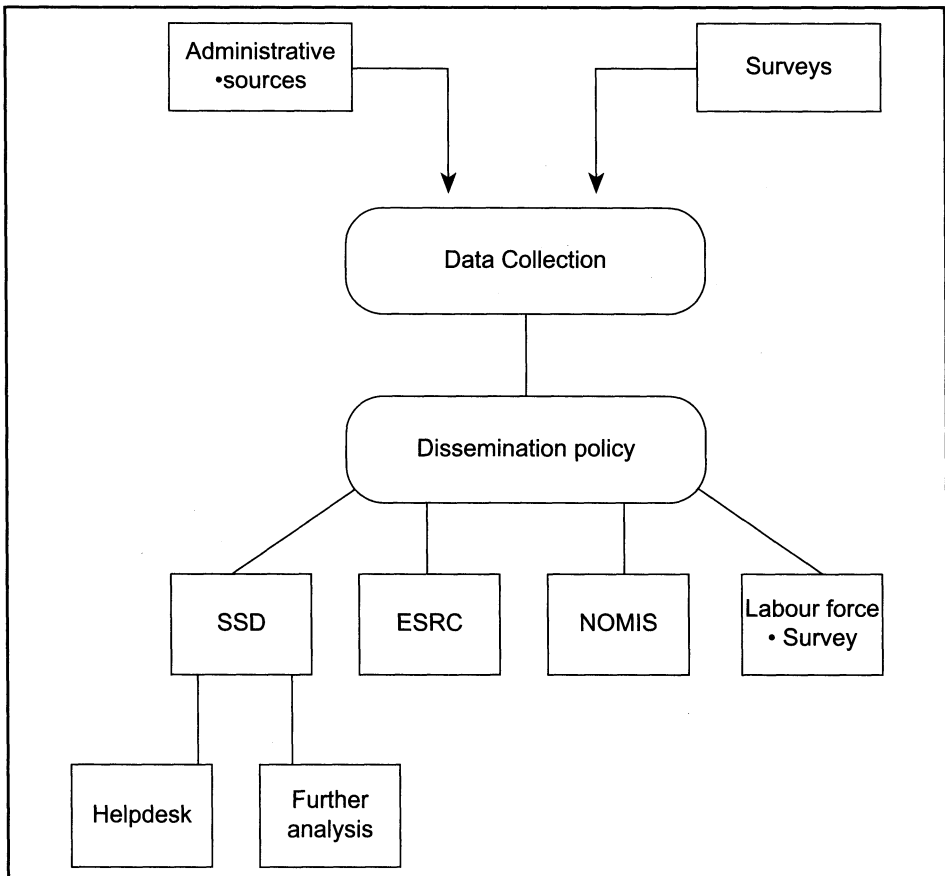


Diagram 2: Dissemination structure.

3.8 LABOUR FORCE SURVEY

3.8.1 The Labour Force Survey is a key economic indicator and is among the major ED survey datasets. Quantime Ltd work in partnership with SSD to provide information pertaining to the Labour Force Survey.

3.8.2 The service offers to users a bureau facility, on-line access and data for microcomputer interrogation through a supplied package. Full sets of the complete database can be supplied for each of the eight years 1984-1991 and for all 4 quarters in 1992.

3.8.3 Public access to each quarter's LFS data is made available from the same day and time that the Employment Department release the results in printed form by means of the LFS Quarterly Bulletin and accompanying press release.

3.8.4 Analysis of the data using the on-line system makes it possible to create your own tabulations to your own specification using the national and regional labour market survey data. It is straightforward to use, but also powerful and capable of producing most tables in less than 2 minutes. The results can be exported to spreadsheet packages for further analysis.

TECHNOLOGY DEVELOPMENTS

3.9 SSD are researching and, in certain cases, will try new technology to bring further efficiency gains and to meet with the increasing demands of customer requirements. SSD consider the data collection procedures to be as important to dissemination as are storage and delivery for, the faster and less burdensome the collection more current and detailed can be the disseminated information.

3.10 Of the stages outlined in the strategy statements above SSD are now moving back to the stage of reviewing customer requirements and comparing findings to the potential of the latest technology. This iterative cycle is a containing strategy which forms part of the long term strategy to deliver essential labour market statistics.

3.11 Below is a brief comment on some of the important developments within the Department.

DATA COLLECTION

OCR FOR FASTER DATA COLLECTION

Much of the data collected for the Department is questionnaire survey based. The frequency falls between monthly to annual with some of the largest in longer cycles. A questionnaire is often the quickest way to obtain information but, its data entry can require clerical armies and can take months to collect and enter.

Optical character recognition will be operated, by the Department in its collection of two of the larger surveys, next year. OCR means that not only can the data be collected but can also be validated at the same time. Document Image Processing (DIP) will also be introduced so that documents can be examined either during a validation process or later by analysts. Some of the added value will come by automating text recognition for field validation for coding systems employed in the government statistics. Such codes are Standard Industrial Classification (SIC)

and Standard Occupational Coding (SOC). The system should provide in excess of six times the throughput of conventional keying systems.

ELECTRONIC DATA INTERCHANGE (EDI) FOR COMPANY CONVENIENCE

Within the surveys relating to pay and personnel larger companies, typically those with more than 250 staff, already retain the information in electronic format. In such cases the completion of questionnaires is burdensome. The Department will be formulating a strategy that will allow for a number of EDI formats to be used. This not only benefits the supplier but also the Department by ensuring more accurate and speedily collected data.

AUTOMATED TELEPHONE SURVEY RECORDING

For small data sets and often those involving the general public, the most convenient form of transmission is by telephone. Telephone systems that are connected to databases for capturing information are now in use by government organizations in the States and by UK commercial companies.

These systems are often touch-phone operated but can also be voice sensitive. If such systems prove popular then service market research could also use such systems for recording and monitoring problems and needs 24hrs a day.

COMPUTER AIDED TELEPHONE INTERVIEWING AND PERSONAL INTERVIEWING (CATI & CAPI)

The Departments Labour Force Survey already employs CAPI for collecting information from over 50,000 households each quarter. Telephone interviews and follow-up samples could be conducted if the interviewer had access to a computer attached to the relevant database. The CATI extension looks likely to be reviewed in the coming year.

INFORMATION DISSEMINATION:

GRAPHICAL USER INTERFACE

The Department will look at providing a GUI to all open systems to bring the given benefits of such systems. Technology has allowed for the source systems to be moved or re-developed on platforms that will allow multiple system access through a common enquiry front-end with GUI.

DOCUMENT IMAGE PROCESSING

Though often seen as a companion of OCR in large data collection organizations, Imaging will allow a databank to be expanded to include formats other than two or three dimensional tables.

In introducing imaging the Department is soon to review the benefits of operating simulation software which will allow users the opportunity of generating complex what-if scenarios with historical data as input. The benefits of simulation are legion and so the selection of the most appropriate for the applications in place is essential.

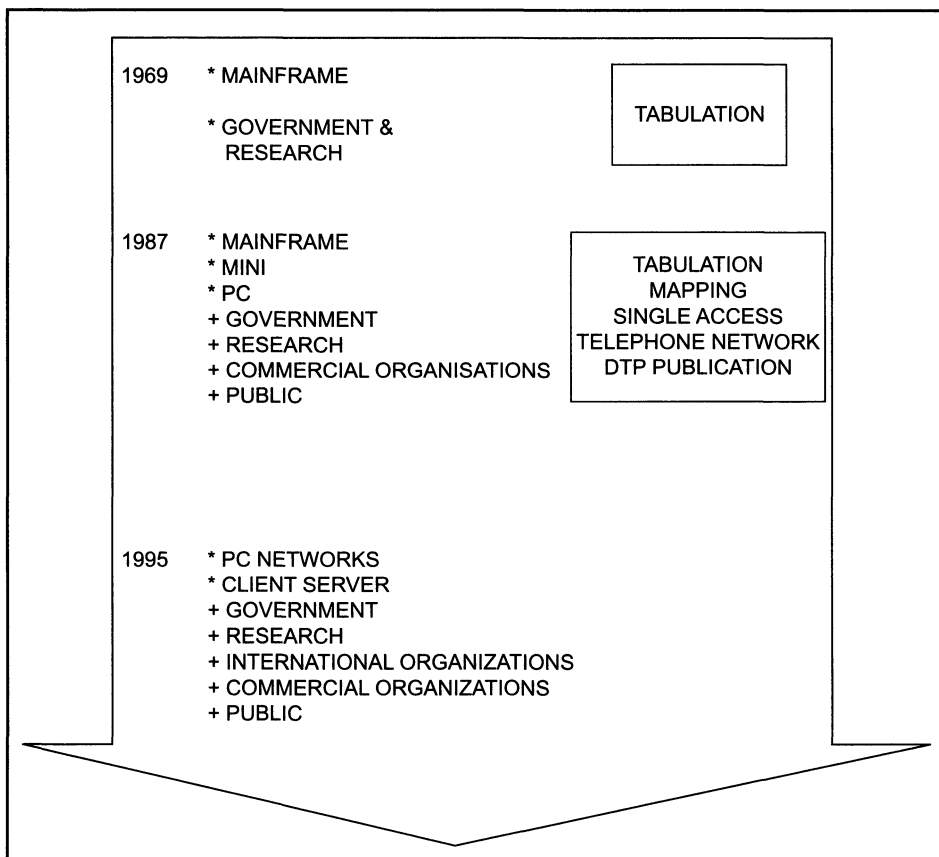


Diagram 3.

AUTOMATED TELEPHONE ENQUIRY

Already mentioned above as a collection tool, the telephone network can provide excellent service in providing access to standard figures or information. Even help desks can be automated to provide customer information or guidance and, again this service can be 24hrs every day of the year. An added attraction is that information can be provided worldwide and by being linked directly to the database or databank can provide up to date information without expensive equipment.

GEOGRAPHIC INFORMATION SYSTEMS (GIS)

Information relationships is important to regional planning organizations or commercially expanding companies. The ability to see multifarious information pertaining to a specific geographic area will bring many benefits. For this reason the information will be held with geographic references and to aid cross data analysis mapping, the format of the stored information must conform to an ED standard.

STANDARDISATION OF SSD IT UTILITIES

Much of what has been stated above depends heavily on the ability of a user to access all ED data as if it were held in one single database. This is not possible due to statistical differences but, the customer perception can be made this way by developing systems in conforming and complementing IT platforms. In April 1993 ED SSD began a review of the hardware and software standards with the intention of strategically planning the near term objective of bringing together the data and making it ever more available and accessible.

RIASSUNTO

Il Servizio Statistico Nazionale Inglese segue una politica di rendere, per quanto possibile, la maggior parte delle informazioni disponibili e facilmente accessibili, pur mantenendo la riservatezza.

Al fine di rendere effettiva questa politica, la Divisione dei Servizi Statistici del Dipartimento del Lavoro ha messo in atto meccanismi per identificare le necessità degli utenti e su come queste possano essere soddisfatte. L'impiego di strumenti elettronici è la strategia di divulgazione preponderante della Divisione ed è stata provata la loro efficacia nel soddisfare la domanda degli utenti. Ulteriori perfezionamenti vengono anticipati come un risultato della tecnologia recente.