

## Shall We Re-Invent Data Entry?

In the 1950s, the predominant method of entering data into automatic processing equipment and computers was via keyboarding.

Forty years on, deep into the computer age, 80% of data entered into computer systems is ... via keyboarding. Scanning and electronic document interchange (EDI) handle around 20% of the volume. At the last count, over 40 billion documents per annum are computer input and processed in the UK, expanding at 10% per annum (in spite of EDI) and costs are rising 5-8% per annum.

Recent technological developments with scanning and EDI, and the enormous growth in availability of low-cost computer power and magnetic storage have switched the focus of many organisations to data entry, data capture, data acquisition, forms processing, image capture - in simple terms the question is, "how do you get clean, economical input into the new computer/information systems?"

The straightforward answer is that without careful analysis, clear thinking and good management you get dirty, expensive input and spend most of your time trying to get it cleaned-up so that you can meet your deadlines. In the worst cases, the payroll run is missed, people do not get paid and you read about yourself in the Press.

Outside of the specialist service companies most organisations have no idea how much it costs to process a form, input and validate a character, correct an error and/or retrieve a broken relationship occasioned by poor quality information processing. Most organisations have no rigorous control of input quality at source. This is astonishing when one realises that computers demand total precision in order to function properly. Errors are caught somewhere later in the processing chain when they are much more expensive to correct.

Of the 80% of keyed input, half comes from centralised environments where controls are usually formalised and the other half comes from decentralised environments

where controls are infinitely variable. In the centralised environments, where data input is the main departmental function, data input operation is generally on-line to mainframes. As more organisations examine their computing costs, it has become apparent that using a mainframe to drive data input operations is somewhat akin to using a Rolls Royce to push a lawnmower. Rightsizing strategies are used to identify the unit costs of applications and increasingly client/server and other technologies are being harnessed to improve operating economics. At the same time new software systems are now available to improve both the quality of the input and the flexibility of designing and re-designing responsive input systems.

Decentralised input keyboarding, some of which is on-line to mainframes or via PCs to mainframes or servers, poses more challenging work process improvement problems. Few companies have standardised on platform-independent input softwares for corporate use - although many have standardised on word-processing, spreadsheet and e-mail softwares. Thus data input tends to be application specific. Dis-continuous use of such applications plays havoc with quality. Often data input is decentralised to tiny workgroups. If someone is away the work doesn't get done or the work is attempted by someone who doesn't know how to do it. In either event, telephone lines are soon busy as others get involved to clear the problems. The costs mount. The service declines. The business does not prosper. Career prospects are dimmed.

Resolving the problems of decentralised input keyboarding is difficult for a number of reasons - firstly, no single person in an organisation is responsible for input quality ("input quality is a cross-functional aberration" someone explained), secondly, no data is kept on costs ("I know it is a bad problem but it isn't mine" is often heard) and thirdly, there is a high tolerance of malfunctioning systems/screwed-up databases/irate users/customers ("organisational mis-adventure").

Fortunately, the tide of business process re-engineering activity that is sweeping over many organisations is uncovering many of these work process problems. Once cost unitisation is undertaken and service levels are calibrated changes become inevitable. No-one can afford the costs of weak systems. Organisational mis-adventure is now corporate-speak for 'death-wish'.

In looking at improvement potential organisations generally are not being tunnel-visioned. Process is obviously important but so too are culture, infra-structure and tools. With decentralised input there has to be a culture of empowerment at the first level to get the quality, but this must be supported by an infra-structure of training, reporting and supervision and enabled by having the right tools for the job. As the tools are primarily software systems and methodologies, they must support the cultural and infra-structure environments.

The tools are new, conceptually simple and extremely powerful, designed for any non-proprietary platform. Anything that can be automated is automated. The tools handle any media - forms, documents, fax, graphics - generate input in whatever form required - characters, images, bit-maps - and index, control and flow the media according to need. Input can be verified and validated as required. ROCC's SEECHECK® system, for example, supports every scanning technology - omnifont, matrix matching and neural - integrates automatic postal addressing, links with any extant networking schema, works in MS-DOS/Windows and UNIX environments and can be used everywhere from a lap-top to a big centralised production shop. Modular up-grades expand the system to document processing, adding document management, storage and retrieval and workflow.

New technology is now changing the price/performance profile of data entry, particularly for forms and document processing. A little understood but important and expensive component of data and information processing systems is coming under the twin spotlights of cost containment and service improvements. Forty years ago we talked of GIGO - garbage in means garbage out - yet the garbage is still there and it is getting more rather than less expensive to clear it away.

Perhaps the time has arrived to acknowledge the re-invention of data entry.

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