The First Annual Conference and Exhibition on Business Process Re-Engineering

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The first annual conference and exhibition on business process re-engineering

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Business process re-engineering involves a fundamental rethinking of business process resulting in major changes to the way in which at least some part of the business operates and is informed by a greater focus on how the organization can deliver value to its customers. IT occupies a special place in such projects. Existing systems and future plans are profoundly affected by the changing organizational structures and work roles produced by redesign. Whether IT is a key enabler as Hammer and Champy (1993) suggest is more debatable.

This conference considerably advanced understanding on how and when to attempt re-engineering. It provided a valuable forum to both speakers and audience alike, for the discussion and analysis of the problems involved in managing such projects. Speakers came from nearly 20 companies or agencies to report on the experience of their own organization in attempting business re-engineering projects. Most had been initiated within the last 3 years. The size of potential benefits forecast by writers such as Hammer and Champy (1993) seemed to be supported by results quoted here. CIGNA, for example, one of the four companies to have completed a re-engineering exercise, claimed to have reduced time to quote for insurance from 17 to 2 days and to have achieved a cost decrease of 25%. However, few of the contributing organizations had progressed far enough to be in a position to assess the scale of potential benefits.

A large audience of nearly 200 underlined the current high level of interest in this subject. Judging from the people that I spoke to, almost all of them must have represented organizations that had begun projects of their own or were seriously considering doing so.

The conference, held in November 1993, ran for 2 days. It was jointly organized by Business Intelligence and the Business Re-engineering Special Interest Group of the Strategic Planning Society. The introduction was given by the conference chairman, Rohit Talwar (chairman, Business Re-engineering Special Interest Group). Rohit established the relevance of process redesign initiatives now and the need for business transformation as one way to surmount the diverse competitive and financial pressures that we are all experiencing. This theme was returned to by speaker after speaker throughout the conference.

A wide range of organizations contributed from the financial sector (Aetna Life, CIGNA, Birmingham Midshires Building Society, Barclays Bank, Prudential and National & Provincial), the manufacturing sector (BP, British Alcan Aluminium, Zeneca Agrochemicals, Pilkington Optronics and Baxi), transport (American Airlines), telecommunications (BT), R&D (International Research and Development), the public sector (The Contributions Agency and Post Office Counters) and services (Reuters and IBM). Two presentations were on experiences from the United States by very different contributors: Mark Maletz, a consultant on business process design advising American Airlines, and Joseph Matejek from the Aetna Life insurance company.

Business process redesign

The requirements of mass production have dominated organizational structures for most of this century. Traditional structure, based on the division of labour and designed around functional departments, assumes a pyramidal shape. In general the larger the organization the greater the number of levels in the hierarchy. Products or paper records are passed from hand to hand, each person or group adding one circumscribed well-defined contribution to the final result, whether product or service. Departments are encouraged to optimize their own operations, leaving ill-managed costly interfaces with other departments. Long lead times are the rule. From the customer's point of view, there are a number of depressing consequences, of which perhaps the most significant has been the lack of accountability and information for their product or service. No one person or group within an
organization of this type has overall responsibility for its delivery.

Changing market conditions in which customer requirements not scarcity is the dominating issue have rendered this type of structure increasingly inappropriate.

Business process redesign seeks to identify processes and make someone (or group) responsible for each one. It seeks to organize around the total product or service and in doing so identify what is really important to company and customer alike. Significant cost reductions are expected from the better control and coordination made possible by the elimination of functional barriers. Customers have one fully informed contact point. This approach normally requires a matching change to company culture, in which the number of hierarchical levels is drastically reduced and people move to working in teams. The team may be made responsible to a set of customers and typically will be composed of many skills. It will need to be empowered in ways never attained within the traditional hierarchical structures. But once achieved the company stands to gain a flexible work-force responsive to the customer. The company becomes for the first time able to hear and utilize suggestions coming from all the people within it. Under these circumstances, training and education become major activities. Simon Carter of Baxi commented that the fact that 'Customers, not management, determine the fate of the organization and its employees' had taken time to percolate through to and be acted on by everyone at Baxi.

Benefits appear to come from three principal sources, all of which may be intimately interconnected. They come from the more effective focus of business strategy on customer requirements. They come from the cost reductions achieved when 'making the invisible visible' as Mark Maretz, the keynote speaker, memorably put it. They come from the flexibility, commitment, creativity and customer responsiveness released in an empowered work-force. However, obtaining them is far from easy. A number of organizations in the US now have experience in attempting re-engineering and their results have been patchy according to Hall et al. (1993) in the latest Harvard Business Review.

The role of IT in re-engineering

Hammer and Champy (1993) argue that IT is an essential enabler that permits companies to re-engineer businesses, but only when applied creatively. Using IT to solve existing problems can block re-engineering efforts by reinforcing current patterns of thought and behaviour. According to them, 'Re-engineering is about innovation. It is about exploiting the latest capabilities of technology to achieve entirely new goals. One of the hardest parts of re-engineering lies in recognizing the new, unfamiliar, capabilities of technology instead of its familiar ones.' They support their thesis by demonstrating the power of IT to disrupt conventional truths about managing organizations. A typical example given is that of information access. According to traditional wisdom information can only be available at one place and time. With shared databases and telecommunications information can now appear simultaneously at any place.

In any case where systems already exist they will support the old model and almost always require major change (if not total replacement) for the redesigned organizational structure. The cost of changing IT systems can be high. Joseph Matejek from Aetna considered this one of the major costs of their programme of re-engineering projects. Every project involved redesigning the IT systems. The figures he quoted were stunning; 30 systems written over 25 years to be replaced eventually by one system and investment in the order of $10 million. His comments mirrored the attitude of most speakers concerned with the impact of IT. No-one suggested that their redesign project depended on the creative use of IT's capabilities.

Mark Graham from Reuters highlighted an important aspect of IT's involvement with re-engineering, namely that of the changing role of the IS staff. At Reuters the redesign project called for the replacement of all the existing stand-alone systems by one integrated database. As the project progressed it became clear that the scale of changes vastly exceeded anything ever tried before. The IT professional group had to make the change from conventional developers working sequentially through analysis to final testing with limited user contact, to a group who could handle multiple simultaneous changes, cooperate with and talk easily to users and acquire a new range of IT skills. The IT department's position within the business also changed. The department is now seen as integral to business success. Both demands for its contribution and the resources made available to it have increased sharply as a result.

Managing re-engineering projects

It is possible to identify four major steps during the life of a project. The approach, time and sophistication of effort given to each appeared however to vary greatly between organizations. The steps are the reassessment of customer requirements (possibly leading to major changes in aims and strategy), project management (and choice of team) and analysis of current operations leading to redesign and implementation.

Rohit Talwar in the first day's closing session suggested that most organizations are attempting to redesign one or more core processes. He warned that partial redesign often failed as it is difficult to successfully redesign
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and implement structures, performance measures and rewards when the rest of the business remains unchanged. This is in agreement with Hall et al.'s (1993) findings that such narrow process improvements often yield less than impressive results for the business unit as a whole. Rohit's claim that most companies were giving little thought to strategic change appeared to be borne out by the cases presented at this conference.

The aims and scope of a re-engineering project very much reflect the original reasons for attempting the exercise. American Airlines, an example quoted by the keynote speaker Mark Maretz, started a re-engineering project when they began to make heavy losses at the end of the 1980s. The company wanted to be competitive in their traditional business and as such concentrated on cost reduction and improving their operations. The project encompassed the whole company but had little impact on strategy.

Mark Maretz, a consultant in business process design at Business Process Design Associates, used his experience in advising the airline to illustrate his discussion of project management and the identification of the key phases of business process redesign. On organizing the project for the analysis and redesign phase he articulated the majority view of the need for top level backing, a steering committee to coordinate and support teams of the best internal staff and appropriate use of consultants. Consultants were seen as particularly valuable, by many speakers, in supporting internal staff through the initial stages. Skills such as process analysis would be difficult to acquire in any other way. A few organizations drew a less clear distinction between the identification of what was needed (discussions of strategic change and analysis of existing process and redesign) and the implementation phase. These took the view that the way the analysis and design was carried out and how much the pertinent people were involved crucially determined the success or failure of implementation.

On the identification of processes, Mark was particularly illuminating. He illustrated with examples from American Airlines the sorts of gains that can be expected from the elimination of duplication. Investigation revealed, for example, that 11 separate groups made demand forecasts. This was reduced to two on redesign. He emphasized the need to find out how operations were really run and even more importantly what customers really wanted. He also emphasized (as many later speakers did) the importance of questioning everything and of thinking radically. The most important question for any team is why is it done like this?

Implementing the changes implied by a redesign was not seen as easy. Almost no presenter discussed in any detail how to carry out a change programme. But most had some ideas on the direction and types of changes likely to be required. Radical successful redesign is likely to reduce the numbers of managers needed and change their roles from supervision to support. Existing information systems will need major redesign and the IS staff roles will change. The core competence of the organization will increasingly come to depend on the skills and ability of the process teams. Making these teams work to maximum capability therefore becomes a top priority for the whole organization.

Failure to manage the project is a major reason for poor results according to Hall et al. (1993). Lack of top management support, unwillingness to implement truly radical solutions, poor implementation, teams of average rather than top performers can all lead to disappointing returns. Indeed, some organizations may even fail to find out the poverty of their achievement and the reasons for this, due to their failure to measure results adequately. Methods for measuring performance after implementation were not discussed by any presenter.

The organizations

Perhaps the most striking characteristic of this conference was the variety of ways in which organizations had made use of re-engineering methods. Speakers stressed the importance of fitting the analysis to the circumstances of the organization. Methodology while important was simply a tool, valueless unless put in the hands of the right people. Those at the beginning of a project tended to be more concerned with what re-engineering could do for them and how best to run the project. Those nearer completion tended to be more concerned with the problems associated with change management.

Presenters came from 18 organizations, 14 of which were organized into parallel streams. Of those that I managed to attend and heard about from members of the audience, two stood out – National & Provincial (N & P) and Baxi. N & P had used the business re-engineering project to embark on a radical strategic change. Baxi had started earlier than most and uniquely with worker empowerment. It then found that re-engineering was essential to make empowerment work.

Most of the remaining organizations appeared to be aiming at a significant performance improvement to their basic operations together with substantial cost savings. The large ones which were driven from the top such as Aetna and the Contributions Agency had the particular problem of organizing such a monumental project, so as to reach all parts of their operations. These presentations concentrated on how to run the redesign project(s) under these conditions. The Prudential and Post Office Counters seemed to be at the early experimental stage. Others such as CIGNA, Reuters and Zeneca, with substantial experience of the process were in a position to assess the whole process. BP(oil) and British Alcan offered
an alternative view on how to run these projects. Both companies had decided that it was the line managers concerned who should redesign their own processes. So their presentations concentrated on how to support this group. The remaining group of BT, Birmingham Midshires Building Society, Barclays, IRD, IBM PC and Pilkington appeared to be more concerned with achieving effective process analysis.

National & Provincial Building Society: a radical strategy

The recurring theme of Graham Russell’s (manager of process design) talk was customer circumstance. N & P have embraced the concept of designing an organization that not only identifies and responds to the current group of customer circumstances but will add to this group as the situation dictates.

Most organizations start by decomposing their existing activities to an ever greater level of detail before redesigning. Although effective on cost reduction, this can take a long time perhaps too long. It also suggests that there is ‘one best way’ and may limit an organization to merely effecting great improvements to the current process.

N & P have sought to build process around the customer, so that, for example, those in a contract race for a house purchase are offered different help and support in their mortgage application to those in a house buying chain. In parallel they are using redesign to improve the way they administer and process information. The impact on their information systems must have been considerable. Implementation involving the change from 25 grades to four, was acknowledged to have been difficult but was not discussed in detail.

The re-engineering project was started 3 years ago. It was estimated to have reached 60% of targets, although these were not specified. Impressive as this presentation was, no attempt at quantifying benefits was made and it was not clear what approach the society had taken to assessing its performance.

Baxi partnership: starting with empowerment

Baxi, a traditional manufacturer of boilers, attempted to introduce JIT and worker empowerment in the late 1980s with the aim of bringing their manufacturing operations up to their competitors’ level. Simon Carter (current CEO), who gave the presentation, arrived as a consultant at this time. Although the results from the early experimental teams looked good, the company-wide initiative was foundering by 1989. The strongly hierarchical (six-level) function-based structure smothered suggestions from the teams with the result that there was little visible improvement and disillusion was setting in.

The solution adopted was a wholesale redesign of the organizational structure. By 1990 the organization had been totally reorganized around multiskilled teams, with only three management levels. The erstwhile powerful functions of finance, sales and marketing and R & D had shrunk substantially as their skills and staff were incorporated into the teams. This was not achieved without pain and loss. Fitting senior management successfully into the new roles was seen as both difficult and crucial to final success. Overmanning that had accumulated during the good years of the mid-1980s became visible and had to be dealt with.

Simon concentrated a good deal of his presentation on the development of the teams. He had more to say than any other speaker on the problems of getting teams to function effectively – possibly because Baxi has been trying longer than any other company. Teams are the core of the company. They have taken on an enormously wide span of responsibility. They are not intrinsically successful and need help and support. Every member needs training – training in how to contribute to the team process – training in as many skills as possible. At least 1% of turnover is now devoted to training. The company started with little IT and the new structure functioned for some time before significant investment was directed towards systems design.

Benefits were tossed out verbally too fast to identify in detail. The company performance throughout the recession had been impressive, with profits being maintained at pre-recession levels with some decline in turnover. Simon Carter seemed in no doubt that Baxi was now a continuous improvement organization.

Large organizations and the organization of re-engineering projects

Aetna Life & Casualty

Joseph Matejek, vice president, re-engineering Aetna Life & Casualty, described Aetna’s experience since he set up the first project in late 1989. Aetna, a large multiline insurance company, had been losing market share throughout the 1980s. It identified that the market had changed and its high-price high-quality products were no longer attractive. The consumer wanted the lowest possible price. So the focus of all initiatives was cost and cycle time reduction. For Aetna it is the gains of reorganizing the work process to deliver more efficiently that are of greatest importance. This is a large bureaucratic organization, so the backing and commitment of top management were essential. As discussed above the impact on existing computer systems was drastic, involving a new start with new technology.

The company experimented initially with a project on personal insurance. It has now institutionalized redesign
by establishing a department that can carry out up to three major redesign projects at any one time and also offer help and support to smaller initiatives coming from the business. Joseph warned that many projects are large, involving a high up-front cost, while benefits can be slow to come.

Although Joseph Matejek specified the huge up-front costs involved he did not really discuss the benefits. It will be interesting to hear what the effects of this approach have on overall company profits in future years.

The Contributions Agency

This agency is responsible for the administration of the National Insurance System. It collects contributions from every working individual and pays out the state pensions. According to David Gatenby, Director of Information Services and Business Planning, it is a massive paper-based operation with antiquated procedures (in some cases dating back to when it was set up in 1948) and little IT. A computer system was installed in 1975 which currently handles over 60 million records and is in urgent need of replacement. Pension entitlement is based on lifetime contributions, so it will be many years before the manual records held on work experience prior to 1975 will no longer be needed.

A high-level review in 1991 sparked the beginning of what promises to be a very long re-engineering programme indeed (2 more years for the full analysis and another 6 or 7 years for implementation). Apart from efficiency gains, an important additional aim was to achieve the ability to provide information to the public by telephone. This is unlikely to be realized without much greater use of IT. The preliminary analysis established that activities so impacted on each other that the only feasible option was a total organization redesign. The agency is now 1 year into the re-engineering project. It has identified six major processes and at least 20 subprocesses, each of which will be analysed by a team. A sharp distinction is made between analysis and implementation. However, the manager expected to lead the future implementation is normally a member of the redesign team. The agency is making use of consultants initially, but David spent some considerable time on the importance of obtaining skills transfer to internal staff and how to organize to ensure that this happens. One of the factors driving the analysis is the need to replace the existing computer, within the next 2–3 years. Much money will be wasted if this is not planned within the framework of an overall IS strategy for the Agency, which in turn depends on the plans coming from this project.

Post Office Counters

Brenda King discussed developments at Post Office Counters. A major restructuring of the organization had been put in place this year with the aim of greater worker empowerment and the support of business process. Early pilot studies using re-engineering techniques had apparently been successful enough to convince the executive committee of the value of further work. Middle management resistance to change appeared to be the major problem foreseen for implementation. Process owners had been allocated for the five high-level processes identified and their plans were due in early 1994.

Organizations claiming substantial results

CIGNA

CIGNA UK is a small subsidiary (less than 300 employees) of a large US company which specializes in medical insurance. It has carried through a classic re-engineering of the business reducing many functional operations to two core processes run by a team-based organization. The major change required to the information systems, in which, for example, multiple data storage locations were reduced to a common source of data, was seen merely as part of the re-engineered infrastructure. Results claimed included a reduction in quote time from 17 to 2 days; cost reduction of 25% and doubling of business at no increase of staff. Roger Dockett (CEO) attributed much of the final success to the inclusion of all staff at all stages of the project. Like Baxi, he identified the teams as the key to business success and spent some time on how they were developed. He emphasized the need for trust between management and teams and the creation of performance incentives tied to each team’s individual situation.

Reuters

Over the last 3 years, Reuters has completed a re-engineering of their business operations in a project driven by the CEO and board. Most of their business is now in financial market services delivered through some 200,000 terminals in over 140 countries. The phenomenal growth of the 1980s had led to creaking systems and slow response to new orders. The order process, for example, involved 12 functions and five computer systems. Re-engineering replaced the functions with an account team structure. The results identified have been as impressive as for CIGNA: payment collection time cut to one-third, target installation dates met in 98% of cases (compared with less than 50%) and order lead times reduced from 3 to 1 month. If the redesign encompassed most of the company’s activities (which was not made clear at the presentation) these benefits should translate into comparable total company gains.

Mark Graham, IS manager for Reuters, was the only
speaker to go into detail on the implications for the IT installation. Reuters is dependent on computer systems and this project demanded a fundamental redesign of their facilities to support the new way of working. The company took the opportunity to move to an open systems architecture in which five databases were replaced by one integrated database with real-time PC user interfaces. This was to give the account team access to all information. The £15 million project was completed on time. But as outlined above the biggest impact was on the IT professional group, whose role and skills underwent radical change from that of traditional systems developers. Some thrived on the change, but approximately 20% could not make the transition. This has also changed IT’s role within the business. The business is aware for the first time what IS can deliver and has become much more demanding but also more willing to offer resources.

**Zeneca**

The focus of concern at Zeneca, according to Ed Jenner (General Manager, Manufacturing and Logistics), was the effects of their supply chain on the end customer – the farmer. Farmers’ needs are subject to the vagaries of the weather. Zeneca wanted a supply chain that could react to these conditions and, hence, both reduce costs and become more responsive to their customers in a rapidly changing market.

Zeneca had grown by acquisition to be a world-wide agrochemical company. By the end of the 1980s their international supply chain was the result of accident not design. In 1990 a re-engineering project was launched to restructure it. Ed Jenner spent some time on each of the major elements of the chain and the changes made. Distribution was an interesting example. The existing world-wide network had been haphazard ensuring that costs were invisible. Zeneca had been pouring money into carriers of all types, which only the process analysis brought into view. In his judgement there is still much more to be saved on distribution. Not only did the company want an integrated supply chain it also wanted an integrated information and control system. This is proving far harder to achieve and yet is regarded as the most critical activity in developing a fully re-engineered design.

The results quoted are impressive. Lead times reduced from 5 weeks to 5 days, warehouse and manufacturing locations halved and distribution costs reduced by a third. According to Ed Jenner, the project owed its success to the character of the team and the support of both the CEO, the national company managers and the commitment of the sales force. The team was composed of multinational, multifunctional people with vision and in-depth experience of the business.

**Enabling process redesign to take place**

**BP(oil)**

Ian Ayres (Business Process Simplification Implementation Manager), presented the results of a major business simplification project initiated in early 1992 at BP(oil). BP(oil) Europe is composed of five business streams in ten European countries. These have operated historically as 50 independent businesses. The aim in early 1992 was to attempt a more integrated approach to what was seen as similar operations. A large project team was set up centrally and given the job of redesign. Although the team appeared to complete this successfully, the results were far from impressive. Further investigation revealed that this approach had simply failed to get the managers across Europe to ‘buy in’ and as a result the project failed to deliver what senior management expected.

A second initiative was launched in which the business managers were put in charge. Most of the team was returned to their businesses. The remaining members took on the role of support to local projects. They helped, for example, by publicizing successes throughout the group and acting as consultants on methodology. ‘You cannot be re-engineered, it has to be done by you’ according to Ian.

**Identifying processes**

**BT**

Roger Cartwright (Senior Manager Process Management Unit) discussed BT’s position briefly before reviewing a range of approaches to re-engineering and some of the available tools. BT has over 6000 products or services. Systems are a critical part of their operations. It was interesting therefore that Roger proposed a positioning map in which the proportion of processes under change, the degree of change management, the impact on people and systems were all seen as important parameters of where a company had reached in re-engineering.

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