CHAPTER 4

PeerNet: addressing the changing nature of scholarly communication

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Introducing the author – Mike Cross

"PeerNet: addressing the changing nature of scholarly communication" was completed in April 1997. At the time of writing, Mike was MCB's Associate Director of Electronic Production and Development. These two departments were created following the break-up of the MCB Electronic Publishing Initiative and their remit was to identify and manage future electronic initiatives that would be commercially and economically viable. This involved management of the development of new projects, and ensuring that all other departments within the company that would be directly affected by these projects were consulted from the outset and encouraged to "buy in" to the new ideas.

Mike's aim in completing this study was to address the implications of electronic publishing for MCB's traditional supply chain, with a view to identifying a plan of action to assure the continued supply of quality submissions from the academic community, and thus ensure the survival of MCB University Press.

The area to be addressed in the study was the peer review mechanism by which the articles submitted for publication in scholarly journals are evaluated by members of the academic community. Mike questioned whether the re-engineering of this traditional feature of the publishers' supply chain could be undertaken to devise a new meritocratic review system exploiting the new technology inherent in electronic publishing.

As he embarked on his initial research, Mike became aware that the fundamental role of the publisher was changing, particularly in terms of the requirements of the dissemination of academic research in the dawn of the twenty-first century, and that many people wondered whether traditional publishers would play any role in this future – if they could not prove that they can add real value to the process. PeerNet is the new review system developed with all this in mind.

Since completing this study Mike has successfully integrated PeerNet into the mainstream editorial processes of MCB. Currently six journals are using PeerNet as the sole source of peer review. A further ten journal editors have expressed a desire to use PeerNet in 2000. Mike's role within MCB since completing this study has evolved in parallel with the substantial electronic publishing output of MCB. His remit now as Deputy Director of Electronic Publishing is the management of the complete electronic publishing division of MCB that includes electronic production and logistics, electronic development and promotion, and technical support services.

Mike Cross

Introduction

What will ensure the development and continued profitable growth of MCB University Press as a flourishing publishing company? This is the business problem at the heart of this study. To this crucial question, two more need to be added, namely: how is the nature of the scholarly publishing industry changing, and what are the problems with the current system as identified by scholars?

Bearing in mind these questions and the rapid changes taking place in the publishing industry, my study was intended, specifically, to investigate the peer review mechanism of scholarly journals, and to explore how, by implementing a new meritocratic review system along with a pre-print service, MCB could provide a valuable service to its academic suppliers.

What became apparent to me, once I began my initial research, was that the very role of the traditional publisher was evolving in tandem with the changing requirements of publishing scholarly articles in the twenty-first century. Indeed a number of commentators inside and outside the publishing industry have questioned whether there will be a role at all for traditional publishers in five years' time.

Hence, as a result of my preliminary research, this study's objectives took on a slightly broader remit, namely:

- to identify the changes taking place at that time in scholarly communication;
- to consider which, if any, of the traditional "value added" elements then provided would no longer be required;
- to identify the publishing value chain, highlighting those elements of it which could be best carried out by a publisher – i.e. what would be MCB's distinctive capabilities in the new era;
- to analyse the required changes to MCB's supply chain; and
- to identify the "key" elements of added value that MCB would continue to provide in the world of network communication.

I anticipate that this study would provide a new value chain model for MCB University Press. This would highlight the current areas of the publishing process which would no longer be areas of competitive advantage, while also identifying distinctive areas of competitive advantage which MCB must promote and develop into "distinctive capabilities" for the twenty-first century. This would be achieved through use of Porter's value chain analysis to identify the areas of MCB's traditional publishing system which will continue to be of value and, as such, provide competitive advantage in the coming years.

In addition, I aimed to provide implementable options to ensure the continued success of MCB in attracting the best scholarly articles.

Strategies for a twenty-first century publisher

Electronic publishing requires a completely different set of rules from paper-based publishing. Consequently publishers hoping to compete in the new world of electronic publishing must think carefully about their future strategies if they are to survive.

I use a review of the literature to draw upon identified areas of supply chain management, business process re-engineering, quality and brands, and relate them to the strategies required of a twenty-first century publisher.

Supply chain management

If MCB is to compete with the new entrants to the publishing arena and also to challenge academics who "are doing it for themselves" it must look to develop, expand and re-engineer its supply chain. MCB has taken its first tentative steps along this path with the recent reorganization of the editorial and print production departments. The aims of these changes were twofold: firstly, to become more effective in the acquisition of quality copy, and so less reliant on a single person – usually the editor; secondly, to become more efficient (and so more cost effective) in the production of a journal article.

It is not just at MCB that the issue of supply chain management has become of increasing concern. In recent years academics, consultants and operational management have identified supply chain management (SCM) as an area of importance. The pressure of global competition is often given as a prime reason for this, but this has presumably formed the background for all changes which seek to increase competitive advantage, not just those concerned with the management of supply chains. More significant perhaps is the pressure from the customer.

This is certainly true as far as academic publishing is concerned where the academic is the author, the editor, the reviewer and the customer. There are a number of new challenges to the current model of publishing, not least of which is the spectre of new entrants to the publishing industry enticing academics with the notion of global information networks on which to disseminate their articles. There is also the funding being provided for academics to "do it for themselves". If MCB is to compete it must take steps to integrate its supply chain.

There are a number of definitions of a supply chain. Seppala and Holmstrom's (1995) definition comes closest to describing the supply chain of MCB in that it communicates the need to add value throughout the various stages:

> A supply chain is defined as a chain of enterprises where materials flow through several tiers of distinct value adding supply stages to the final customer . . . As the materials flow downstream in the chain, they are refined to final products. The flow and production of materials add value to products and create costs.

The problems associated with supply chains are seldom simple and easily understood. Inventory levels, the size of the buffers, transportation/delivery frequencies and particularly demand and production fluctuations make the system very complicated to grasp. An overview of the supply chain and an understanding of the associated problems are particularly difficult to gain at MCB where the initiation of the information flow takes place outside the company (with the editors/authors) and is not particularly open or visible.

In recent years logistics networks have been of great interest to both researchers and business practitioners. Kearney (1993) found, in research into 1,000 major European companies, that only 4 per cent of companies were able to deliver in a way that was defined as total supply quality.

So, what type of improvements should companies pursue to enhance supply chain effectiveness?

The possibilities are wide but essentially have one common purpose. A supply chain can be thought of as two kinds of flow: information flows "backwards" from the end customer along the chain of organizations and processes, and materials and goods flow "forward" towards the end customer. Supply chain enhancements will act on one or both of these flows.

The twin goals of supply chain management are to increase customer service and to improve productivity. The key to achieving this is speed. This model is supported by Wills and Wills (1997) who, in a recent article describing the information flow at MCB University Press, explain how by "re-engineering knowledge logistics" a reduction of 75 per cent of the lag time in getting articles or books into print can be achieved.

Two of the biggest obstacles to better supply chain management occur at the outset of the improvement process: firstly, in establishing clarity about what is to be achieved and where to start; secondly, in gaining the necessary commitment and understanding among management and staff to make it happen.

Simpson and Erenguc (1996), when describing multiple-stage production planning, could easily be describing the life cycle of a journal issue in the MCB production system and the challenges the company needs to address:

> multiple-stage production planning addresses systems which transform and/or transfer inventories through a set of connected stages, to produce finished goods. In its most generalised form, such a system may contain stages which represent the delivery or transformation of raw materials, the assembly of component parts, the transfer of work-in-progress between production facilities, or the distribution of finished goods. The fundamental challenge of multiple-stage production planning is the minimisation of total system costs . . . and an uneven external demand for component items or resources.

Three steps to supply chain integration

The term "supply chain" is used to refer to the chain linking each element of the production and supply process from raw materials through to the end customer. Typically such a chain will cross several organization boundaries. It

consists of flows of materials and product through various production and distribution processes in one direction and flows of information to provide control mechanism, mostly in the other direction.

The elements of supply chain management were well summarized by Jones and Riley (1987) who suggest that companies must integrate through:

(1) recognizing end customer service requirements;

(2) defining where to position inventories along the supply chain, and how much to stock at each point;

(3) developing the appropriate policies and procedures for managing the supply chain as a single entity.

However, although many organizations recognize the potential for improved supply chain performance, they find that there are still major barriers to achieving it (Houlihan, 1985).

Rough modelling

If it is to continue to compete as a publisher, MCB must fully understand its supply chain and must have a vision of how it can be re-engineered to make it viable in the new publishing paradigm.

MCB must be fully conversant with the role of the editor and the peer review process. It must recognize that the logistics system is not linear and that the sum of the optimal subsystem is not the optimum of the system as a whole. Understanding and finding the best practices of the entire logistics system requires a holistic view. All parts of the logistics system need consideration, at least on a rough level.

Seppala and Holstrom (1995) explain that the idea of rough modelling of a logistics network is to reduce complexity in the supply chain system and to build a reduced model. This is done in such a way that the model retains its ability to illustrate all the important aspects of the supply chain, and enables the user to find the desirable course of action. The model should be simple, but at the same time it should give a holistic view of the system to prevent its sub-optimization. This can be done by abstracting the system features and highlighting the important aspects of it.

Supply chain management: a holistic view

Jack Welch, the CEO of General Electric – a $64 billion conglomerate with widespread interests in various businesses around the world – recently observed:

> In the 1990s we will face the toughest business decade in history, with more and tougher competitors and customers who will be judge, jury and executioner of any business that does not anticipate, satisfy and care about their needs . . . We will be asking more of our suppliers and we are seeing more asked of us. There is no question that the customer is demanding more attention, more empathy, more solutions and is no longer tolerant of the aloof self-absorption of large, comfortable, long-term suppliers.

These opinions are being echoed by organizations around the world and, indeed, Jack Welch could have been describing the changing expectations that face MCB in the next five years.

Reshaping the supply chain

Halhead (1996) identifies two main barriers to reshaping the logistics chain. Within organizations, different functions or departments often have disparate or incompatible systems and agendas, creating a technical barrier to progress. Externally, supply chains with customers and suppliers are not homogeneous. Participants often have different communication infrastructures, with language, currency and cultural barriers and legislative differences.

The problem inherent in many supply chains is the different requirements and expectations of the interested parties who make up the chain. As part of a move towards business process re-engineering to improve satisfaction and productivity, a great deal of progress is being made in breaking down the barriers between stages and/or departments. Internally, explains Halhead (1996), organizations are setting up cross-functional teams and eliminating tasks which add no value. Externally, businesses are looking to cut costs and improve productivity by outsourcing and passing on more responsibility to their suppliers in a more integrated value chain. This is often referred to as the extended or "virtual" enterprise.

Whether part of a formal re-engineering process or not, it is important for MCB to take a holistic view and look at the supply chain as a whole.

The integrated supply chain: plan, source, make, deliver

Stewart (1995) explains that the supply chain consists of those logistical and information elements which are bounded by the aggregate demands of the market-place at one end, and by specific product/service delivery at the customer site, at the other end. Organizations with traditional supply chain have a functional orientation, and isolate internal functions, suppliers and customers.

As a result Stewart suggests that the traditional supply chain – of product development, procurement, production, sales, distribution and field service – is therefore not a chain at all. Its traditional results are that it:

- introduces error and distortion;
- adds unnecessary cost;
- delays reaction to market changes;
- pushes strategic decisions low down; and
- undermines competitive positioning.

Stewart concludes that integrating the supply chain requires philosophical, operational and system changes, and suggests that an organization must:

- take ownership of the integrated supply chain as a process;
- drive the integrated supply chain to follow the agreed policies (demand business results);
- ensure the operational integration of all the supply chain elements;
- continually improve the supply chain performance using the agreed metric (customer service, cycle time, quality, cost); and
- support both change management and steady state management (develop the process, pilot the process, implement change, improve the process, continue and sustain the change).

If MCB wishes to become more efficient and so more effective as a publisher, it must take heed of the literature discussed above. Indeed MCB's supply chain has become a mission-critical business process which must be re-engineered if the company is to maintain its competitive advantage. Scholarly publishing is changing rapidly with the advent of new technology, and the requirements of the MCB publishing system are being redefined in light of increasing competition and customer requirements. MCB must strive to become more flexible if it is to continue to compete.

Data analyses show that rapid supply chain cycle times and flexibility go hand in hand. Flexibility becomes more critical as production life cycles shorten. A demand not met in a timely fashion will result in lost sales and lost customers.

One measure of production flexibility, suggests Stewart (1995), is the speed with which production can achieve a sustainable, unplanned 20 per cent increase in output. For example, best-in-class electronic systems companies can typically respond to surges in demand within two weeks, while average companies require two months.

Business process re-engineering

A powerful current is sweeping through organizations of all sizes. Traditional "industrial age" structures based on functional hierarchy are changing into "information age" structures that are oriented towards collaboration across functions and a focus on business process (Teng *et al.*, 1996).

These business processes involve sets of logically related tasks performed to achieve defined business outcomes. In a typical organization, employees "work for" a functional department rather than the business processes in which the department participates. Performance of departments, not processes, is routinely evaluated. In fact, few in the traditional organization ever worry about the effectiveness of the processes or question their rationale. Under the banner of business process re-engineering (BPR), many organizations have undertaken critical analysis and redesigned existing processes to achieve breakthrough performance gains. Successful re-engineering efforts in many firms have been reported to improve productivity significantly and reduce staff (Haley *et al.*, 1993; Stewart, 1992).

Defining business process re-engineering

References to business process re-engineering (BPR) abound in popular and academic literature (Marsick, 1994), frequently with limited definitions of key terms. The definition of BPR I will use for this review is Hammer and Champy's (1993):

> the fundamental rethinking and radical redesign of business processes to achieve dramatic improvements in critical, contemporary measures of performance, such as cost, quality, service and speed.

The propensity to publish papers on BPR has encouraged some imprecision in the use of the term and the "re-engineering" label has been applied to diverse organizational change programmes. Davenport and Stoddard (1994) comment that business process re-engineering is:

> widely misunderstood and has been equated to downsizing, client/server computing, quality, activity-based costing, and several other management nostrums in the past several years . . . As a result of this imprecision, many managers are pursuing re-engineering because of its positive press, without truly understanding what re-engineering is. Further, many have come to rely on some common and potentially harmful myths to guide them to successful completion of their projects.

Venkatraman's model for degrees of business change (quoted in Mintzberg, 1987) lists the following:

(1) Process automation. This is the first stage of business transformation in that it deals with the automation of existing processes. The arguments against process automation state that "automation may emulate the intrinsic inefficiencies of the manual process in electronic form". Indeed Hammer (1990) describes this as "embedding outdated processes in silicon and software".

(2) Process simplification/improvement. Process analysis often identifies significant areas for improvement through process simplification. Improvements in speed and quality may be achieved through making concurrent activities that were previously performed in a series. Implementation effort should not be understated. Simplifications may be applied to whole or fragments of a process (Miller, 1993).

(3) Business process redesign/re-engineering. Organizations will typically have between three and ten core business processes (Hammer and Champy, 1993). Processes are seldom expressed in conventional management structures and have to be unpicked from existing activities. Business process redesign/re-engineering is the classical approach described by Hammer and Champy. Significant investment in the assembly of the re-engineering teams is required in order to undertake the initial process analysis, redesign and subsequent analysis. Case studies demonstrate potential for success and disappointment (Business Intelligence, 1994; CSC Index, 1994).

(4) Business scope redesign. Opportunities may be created through business process redesign/re-engineering to redefine the scope of the business. This may, for example, enable the organization to establish a close alliance with suppliers or customers.

(5) Corporate transformation. Fusion of process redesign and the information technology of an organization may be described as corporate transformation. It is a radical departure from previous practice and redefines the business for the organization, its suppliers and customers. It implies a fundamental change to the nature of work. Support for such fundamental change requires a holistic approach to human resources, training and development, management structure changes, and the definition of the organization's core business (McHugh *et al.*, 1995).

"Process" also requires definition. Davenport and Short (1990) capture the essence as:

> a set of logically related tasks formed to achieve a defined business outcome. A set of processes forms a business system – the way in which a business unit, or collection of units, carries out it business. Processes have two important characteristics:
>
> - they have customers: that is, processes have defined business outcomes as there are recipients of the outcomes. Customers may be either internal or external to the firm.
> - they cross organizational boundaries: that is, they normally occur across or between organizational subunits. Processes are generally independent of formal organizational structure.

Hammer and Champy (1993) crystallize business process as "something the customer will pay for".

Implementing business process re-engineering

Peppard (1996) indicates that "even within an organisation, resistance is often not to the initiative itself per se, but to the fact that it will be probably soon be forgotten only to be replaced by yet another initiative".

Re-engineering, states Morgan (1986), implies the metamorphosis of organizations into machines. However, dependence on internal and external stakeholders for a successful change of programmes does not find adequate expression in such a metaphor. It implies a subordination of employees' feelings, concerns, anxieties and ambitions at a time when they may be at their most vulnerable (Homa, 1995).

Organizational leadership is only powerful because of its ability to motivate others to change behaviour in the desired fashion. As Grint and Willcocks (1995) say, if "subordinates themselves do not act then the leader has little power: only as a consequence of subordinates' actions can leaders be deemed to have power".

Engaging staff to focus constructively on improving corporate performance and satisfying internal and external stakeholders is essential. Talwar (1994)

comments that business process re-engineering "requires us to build and communicate a shared understanding of the organization's preferred future, create an environment and infrastructure that actively promotes learning and allows imagination, not conditioning to guide our decisions".

Homa (1995), when identifying that a lag exists between changes in an organization's strategic environments and the revision of managerial formulations to satisfy the new external domain – which he describes as "strategic jet lag" – could well be describing the malaise affecting many traditional publishers. Such publishers are finding themselves thrust into a new competitive working environment, but have operating systems which are still geared to what was appropriate for the previous position.

Dominant logic can demonstrate a long half-life. Waterman (1992) explains that:

> We are controlled by ideas and norms that have outlived their usefulness, that are only ghosts but have as much influence on our behaviour as they would if they were alive. The ideas of men like Henry Ford, Frederick Taylor and Max Weber – these are the ghosts that haunt our halls of management.

Leadership

Organizational leadership must be demonstrably committed to initiating, sustaining and achieving successful BPR programmes (Business Intelligence, 1994; CSC Index, 1994; Grint and Willcocks, 1995; Hammer and Champy, 1993; Waterman, 1992). Leaders must nurture and encourage internal and external stakeholders to achieve the desired change. Furthermore, leaders must demonstrate humility and respect for the previous order. Bennis (1994) comments that "failing to appreciate the importance to the organisation of the people who are already in it is a classical managerial mistake, one that new managers and change-oriented administrators are especially prone to make".

On the distinction between leadership and management, Bennis continues, "The distinction is an important one. Leaders conquer the context, the volatile, turbulent ambiguous surroundings that sometime seem to conspire against us and surely will suffocate us if we let them, while managers surrender to it".

This point is one of which I and MCB in general must take note when planning and implementing a revision to the status quo of the traditional peer review process. Indeed, persuading an organization's internal and external stakeholders to redefine the "what" and the "how" of work will depend on harnessing well-motivated support staff.

Re-engineering processes must not be limited to satisfying today's stakeholders but must also satisfy those of the future (Hamel and Prahalad, 1994; Pascale, 1991). There is nowhere that this statement is more accurate or pertinent than in today's (tomorrow's?) publishing environment.

Brand management

Strategic leadership enables an organization to pursue a BPR programme which addresses issues that are in the future as well as those that are pressing

today (Grint and Willcocks, 1995; Hammer and Champy, 1993; Porter, 1985). MCB's strategy must be to build and manage brand equity along the supply chain.

In their book, *Re-engineering the Corporation*, Hammer and Champy (1993) set out an agenda for corporate change that has been described as the compass and maps for the twenty-first century business world. Their deceptively simple advice to corporations, whether market leaders or failing enterprises, is fundamentally to reassess key procedures and processes of business development and exchange. They refer to any such redesign that achieves dramatic improvements in the measures of performance, such as cost, service and speed, as process re-engineering.

To date, two core business processes have received most management attention as regards re-engineering endeavours. The first is order fulfilment, the task of converting a customer's order into cash after it has been delivered (Earl and Khan, 1994). The time-to-market for new products has also become a necessary condition for sustaining competitiveness and is the second process that has been most commonly redefined through concurrent engineering (Edwards and Braganza, 1994).

While process re-engineering initiatives in both these areas have yielded substantial and recurring benefits to management, Knox (1995) states that they should only be regarded as signposts on the journey to redefining how the entire company offering, or brand portfolio, should be managed.

In essence, through shifts in competitive pressure and collapsing response times, the ascendancy of powerful intermediaries and single sourcing (Booz Allen and Hamilton, 1991), combined with a post-modern customer and consumer desegregation (King, 1994), corporations urgently need to redefine how they build and manage brand equity along the supply chain. In this context, brand equity refers to the perceptions of "added value" which enhances the functional value proposition of the brand among customers and consumers (Farquhar, 1989).

Knox (1995) states that "It is clear that, in attempting to integrate better the management of brands with supply chain management, the organisation needs an approach that entrusts the equity of brands to an integrated management team which is truly responsive to both customers and consumers alike".

Building brands: the traditional approach

Many of the classic brands, such as Mars, Lux Toilet Soap, Cup-a-Soup, Ariel, etc., have been built and sustained around consistent and ever-evolving functional and emotional value propositions, argues King (1991). He continues: "given adequate tender loving care, these classic brand leaders should prosper more or less indefinitely".

Their equity has been built over the years according to the doctrine of the four Ps and a consumer who subscribes to the values of heritage, functional

performance and ubiquity. Nearly half the current top 50 brands in the UK were launched during the same era and are still successfully managed on this basis (Brady and Davis, 1993).

The approach is, however, largely anachronistic since it represents the activities of a functional marketing division that perpetuates an atomistic exchange process with its consumers and depends on advertising "pull" and repeat purchasing to build brand loyalty. This is something on which MCB journals could rely in the past, but the demands of the future and the question of "what is the brand?" are likely to change this.

In the past, success in this process has enabled marketing management to price leading brands at a premium and to enjoy above-average earnings (Clifford and Cavanagh, 1985). However, Coopers & Lybrand, although describing the retail industry here, could well be describing the future of journal brands:

> During the early 1990s, however, these price premia have largely been eroded as very competitive own-label offerings have been re-evaluated by consumers. In fact, an analysis of the top ten brands across two leading UK grocery accounts, shows that only three are able to sustain an acceptable price premium over the retailer's own-label and outsell it (Coopers & Lybrand, 1992).

For "very competitive own-label offerings" read "academics doing it for themselves" by publishing their own electronic journals. This is the challenge traditional publishers are now facing. Although they currently have the "best" brands, increasingly these are being challenged by academics' own-label offerings.

Re-engineering the brand management process

This challenge from the "own-label" offerings is forcing MCB to ask fundamental questions about brand equity and how new ways of delivering value in the supply chain can be identified.

Managers in Procter & Gamble, the profitable US brands giant, are currently asking themselves: "if P&G did not exist today, how would we recreate it?" (Hammer and Champy, 1993). The company was also among the first of a number of major corporations to acknowledge that consumers are no longer willing to pay the premium for brands as a matter of routine (Paine Webber Associates, 1992).

Other multinational consumer goods companies are questioning the duality of sales and marketing by moving towards integration. For instance, Colgate-Palmolive in the UK has drastically rationalized its brand portfolio from more than 400 lines to less than 200 in order to focus on managing major retail accounts as well as these retailers' customers. By improving customer service levels and hence direct product profitability in major accounts, while at the same time increasing consumer advertising across flagship brands, the corporation has moved back into profitability (Knox, 1995).

This rationale is something MCB is certainly considering. As the cost of individual journal subscriptions rises, journal "suites" as sold under the

Emerald brand are now receiving much of the marketing focus. Additionally the complete MCB portfolio, marketed as the Emerald Library, is being utilized as a key customer marketing/retention tool. Individual journals identified as not economically viable are also being marketed via Emerald – an individual subscription to these journals is not available. This is not quite the rationalization of Colgate-Palmolive but shows MCB's desire to "move" its subscribers into purchasing a core group of products.

The move to electronic publishing brings with it a different approach to brand building. No longer does the brand only convey something tangible like a journal: it also conveys a level of customer service resulting in the provision of a solution to a customer's information requirements. NCR identifies a similar strategy in moving from selling physical products to selling solutions.

In global business communications, AT&T:NCR has redefined functional responsibilities in support of the process of "providing business solutions to meet customer needs". This has also involved integrating sales and service to provide a customer-facing organizational structure.

The re-engineering processes mentioned above, states Knox (1995), recognizes the requirement for company restructuring in recognition of the demise of stove-pipe structures with command control budgeting, towards cross-functional management teams that introduce greater flexibility and co-ordination within organizations. It is these teams which define and refine the management of these core processes to build the organizations' competitive advantage.

Bower and Garda (1986) identify the main management activities which are likely to constitute the strategic building blocks of this integrated brand offering, presenting these activities as a value chain. Knox (1995) suggests that it is the successful integration of these management activities and competences within the supply chain that will enable the brands to be managed as a core business process.

What is really exciting about the integrated brand proposition is that it has wide applicability; it is within the grasp of management in business-to-business markets, just as much as it is for those in service or consumer goods industries. To be effective in any of these industry sectors, the process will require competences drawn from each sector: the provision of a consumable product; an integrated service/corporate-values surround; and relationship management practices. The integrated brand value chain identifies how these process competences can be translated into activities which build brand presence and reinforce loyalty (Bower and Garda, 1986).

Knox (1995) argues that the company brand, which is becoming increasingly evident in the market-place, offers values that extend beyond the brand identity and function of individual brands in the company portfolio. This is certainly true of the recent MCB initiatives such as Literati Club and is an example of the dichotomy MCB is facing. On the one hand it must have brands which are marketable to consumers, and on the other it must have a brand which is

marketable to its suppliers. This problem provides MCB with the challenge of creating a "brand" which will attract quality authors which in turn helps the brand image of the product that is marketed to the consumers.

This notion, simply stated by King (1991), suggests that "in addition to the consumable product, the company brand offers a corporate underpinning that refers to values, styles and behaviours which enrich the offering".

The third building block in the Bower and Garda (1986) integrated branding process is the explicit management of intermediaries to enable them to serve their customers more effectively. In the case of MCB this role in the integrated branding process is undertaken by in-house managing editors who must be educated and convinced to buy in to the re-engineering of the brand management practices.

In the past, marketing management at MCB have tended to take loyalty among existing purchasers as given, and have focused on getting new, or lapsed, consumers "to fill the leaking bucket". It is most unusual to find a company that devotes a significant proportion of its marketing budget to "consumer loyalty". Indeed it is only in the last year, with the appointment of a customer retention manager, that MCB has focused on this area. However, all this could very well soon change if the results of research by Reichheld and Sasser (1990) are found to be of general application. Using Bain and Company data, they observed that a 5 per cent increase in customer retention (loyalty without commitment) can boost profits by an order of between 25 per cent and an astonishing 85 per cent, across service and manufacturing industries.

It is now time to view consumer retention and loyalty as a corporate responsibility and thus a component of the integrated branding process, since both aspects can be managed across flagship brands on a portfolio or category basis. Increasingly, corporations are recognizing this and mounting loyalty programmes across their main brands, such as British Airways' air miles scheme, or as inter-company tie-ups between non-competing retailers, restaurant and hotel brands (Summers, 1993). MCB's sole concession to this notion of customer loyalty is the provision of free access to the Emerald Library for customers spending in excess of £18,000 sterling (the current market price of the Emerald Library).

Knox (1995) is talking about customers when he states that, "As with traditional brand management practices, sustaining consumer interest and preference involves maintaining the company's brands as routine and top-of-mind purchases within a product category". However, it is not only customer loyalty which must be sought and managed, but also loyalty from MCB's suppliers (authors).

Managing relationships in the supply chain

The importance of explicitly managing the expectations of supply chain participants, such as authors, editors and the company employees themselves,

increases directly with the level of corporate exposure introduced by the integrated branding process. So, the case for improving retention among these specific interest groups is regarded as a matter of strategic significance.

Within the organization, supplier and employee retention and loyalty should be an explicit goal of the integrated brand management team. Loyalty among employees not only lowers recruitment costs (Schlesinger and Heskett, 1991), but, more importantly, enables the culture of customer responsiveness to be inculcated through a learned sense of company values and participation in business processes. In fact, the efficiency of core and support processes is dependent on retaining experienced participants in the team to work comfortably in a system of iterative learning. Hence the requirement to create a "virtual community" of like-minded individuals intent on achieving the same goals.

To achieve the "virtual community", management working in these multifunctional teams within the discrete zones of the integrated brand will need to be restructured out of the traditional brand management dendogram and regrouped around suppliers and intermediaries (Knox, 1995). These teams should be cross-functional and consist of members drawn from appropriate disciplines.

Challenging the classical marketing model

If MCB is to work with its suppliers and customers to create a "virtual community", in addition to focusing on attracting, managing and developing its suppliers by re-engineering the supply chain, it must also recognize the importance of its customers and must restructure the marketing departments to take account of the different requirements of tomorrow's electronic consumers.

Focusing the marketing organization on the customer, not on the product, reflects the change from an "inside-out" to an "outside-in" marketing organization. "Inside-out" marketing efforts emphasized cost efficiency and market share. The fortunes of traditional marketing organizations such as Colgate-Palmolive, Kraft General Foods and Lever Brothers have diminished with time. These packaged goods producers encountered stiff and unrelenting competition from rivals using new, non-traditional methods of marketing. Examples of newly successful rival companies include Hewlett-Packard and L.L. Bean (Thomas and Kleiner, 1995).

Thomas and Kleiner identify the notion of inside-out and outside-in organizations, and list the differences. Inside-out organizations:

(1) Know relatively little about their customers and prospects. They think of markets, not of people. They rely on traditional survey research to tell them about the "average consumer". They rely on "marketing on the averages".

(2) Focus primarily on customer conquest. They are constantly thinking about new customers, taking business from the competition, extending

the line to bring in new users and the like. Their goal is generally short term, and they really do not care who buys or what it costs to generate the sale, as long as they get the business.

(3) Are intent on "making the numbers". Quarterly goals, market share and volume are the objectives of inside-out organizations. Generally, they will do anything to make the internal goals, including mortgaging the future of the brand and the organization.

(4) Are driven by efficiency. Prices too high? Reduce the cost of the product. Run the plant at full efficiency, no matter that the product is piling up on the dock. Cut the price and move it out. Always use network TV and free-standing inserts; always focus on the lowest cost supplier (Thomas and Kleiner, 1995).

Looking at the above description of the characteristics of an inside-out organization, it is possible to identify some parallels with MCB's traditional marketing philosophy. However, with the advent of electronic publishing and the need to communicate the benefits of the products it is now producing, MCB must strive to move away from inside-out marketing, and towards an outside-in organization.

The characteristics of the outside-in organization (as identified by Thomas and Kleiner (1995) and shown below) make up the model MCB must follow if it is to realize the goal of closely integrating not only its suppliers but also its consumers. Only by understanding the requirements of its customers can MCB meet its goal of creating a "virtual community" of like-minded individuals working together to further the dissemination of high-quality management information.

Outside-in marketing

The "outside-in", integrated marketing approach takes the opposite approach to traditional, "inside-out" marketing. Traditional marketing can be contrasted with integrated marketing using four opposing characteristics. Outside-in marketing professionals:

(1) Always start with the customer. The key is knowledge of the customer as a person using longitudinal data, databases, modelling, and scoring of customers to determine what they are like and what they might want in the future.

(2) Are constantly trying to build a relationship with the customer, to win and keep a customer over time; most of all, to have a customer so satisfied that he or she becomes the company's advocate in the marketplace, as Lexus and Saturn have done.

(3) Value customers in some way. By looking at income flow, outside-in marketers know how much to spend to hold a customer and how much to spend to get a new one. Most of all, they know which customers they want to keep and which ones they want to let go. It is not how many

customers you have that is important, it is how many profitable customers you serve.

(4) Are driven by effectiveness, not just efficiency, by knowing the value of the customer. Their goal is to become the low-cost marketer, not the low-cost producer. The move from efficiency to effectiveness often changes the entire way the organization operates – and it has mastered that change (Thomas and Kleiner, 1995).

Review of findings

The traditional status quo of scholarly communication is coming under increasing threat. It takes the form of customers' increasing requirements for information and the way in which information is packaged, delivered and priced. Suppliers (authors, editors) are increasingly identifying new ways to publish their material as the ease of access to and the cost of electronic publishing fall. New entrants and competitors are courting authors and editors and providing them with the technology to publish their work via large computer networks.

If MCB is to continue to succeed in this new environment it must re-appraise its management of the supply chain, and have the conviction not just iteratively to change processes but to embark on a radical re-engineering process, to ensure its position is maintained. The traditional publisher is the keeper of the market-leading brands. It must ensure brand equity is maintained both along the supply chain and also as a tangible statement of quality to the consumer.

Finally, I believe that the organization must look to its core competences and identify the value a publisher provides in relation to academic dissemination. Advocates of electronic publishing promote the idea of electronic self-publication. MCB must identify the value-adding activities which can best be provided by an independent publisher.

It is unlikely that the publishing supply chain of the future will be dominated by a publisher. It will become much more a partnership between the three major players – publisher, supplier and consumer – which could be likened to a "virtual community".

Analysing and applying the theory

Before any analysis can take place, the culture of the company must be addressed. It is of little use highlighting possible opportunities if the structure or the culture of the organization would not provide the required mechanisms to take advantage of such opportunities.

MCB's power culture (Handy, 1993) ensures the organization is directed from a central source. It is a learning organization and follows an organic management system, in terms of changing markets and technical innovations within the publishing industry. MCB's culture has adopted a flexible organization structure to allow for innovation and change. The company has a flat structure and in most cases the employee reports directly to the departmental head. The "white space" is managed through a task culture with individuals working cross-functionally.

The impact of network communication

Communication networks are having a major impact on our lives. Day-by-day technological convergence is creating the necessary infrastructure for a world where much of what journal publishers currently distribute in physical print-on-paper form will be more effectively distributed digitally.

The impact network communication will have on the content industries, including journal publishing, will be far reaching. Publishers must recognize that what they do now and how they plan for the future will have a major impact on how successfully they manage their business through this transition, bearing in mind particularly the need to manage what will clearly be a prolonged and difficult period of transition.

We are in the midst of an enormous and exciting revolution in academic communication. Twenty years ago, the world's scholarly communication system was almost exclusively paper-based. Computers were gaining a foothold on campus, but at that time they were mammoth machines that ran on punch cards or reels of tape, and required climate-controlled rooms or whole buildings of their own. University budgets seemed able to handle significant investments in library and computing resources while supporting research activities.

In two decades, dramatic changes have fundamentally reshaped the entire system of scholarly communication. First and foremost among these changes is the phenomenal increase in the body of published knowledge, with its profound implication for scholars and university libraries.

It has been estimated that the number of published scientific papers doubles every ten to 15 years. For example, scholars in the field of mathematics have

published about one million scientific papers to date – half of those in the past decade alone. Even if the volume could be restricted to 50,000 papers a year, the literature would double in another 20 years (Odlyzko, 1996).

With this pattern of proliferation combined with the funding cuts faced by universities and the skyrocketing increases in journal prices, it is not surprising that university libraries are hard pressed to maintain collections in support of their teaching and research functions. Statistics from the Association of Research Libraries show that, from 1986 to 1993, the unit price of serials more than doubled (an increase of 108 per cent) (Association of Research Libraries, 1994).

At the same time, the quantum leap in electronic and communication technologies has altered the behaviour and activities of scholars in a way that could not have been foreseen a mere two decades ago. The use of personal computers has swept across academia, redrawing communication patterns. Many students and researchers of the 1990s rely extensively on the Internet and its graphic-rich component, the World Wide Web, to find and exchange information.

The global appeal of the Internet for scholars is the ease of access to the growing body of literature. For universities and their libraries, these new electronic and communication technologies promise the opportunity to improve the service to clients by focusing on accessibility rather than acquisition. The concept of accessibility rather than acquisition, or, as it is often referred to, "just in time" versus "just in case", is a particularly important point for publishers and one the author will address in greater detail later in this paper.

The current evolution of scholarly communication and the role of publishers raises a series of complex issues, including the role of the publisher, what value is added in scholarly communication chain and where, copyright, the basis for recognizing and rewarding scholars, and the inability of university libraries to keep pace with the growing body of knowledge.

Scholarly communication is at a cross-roads. There are critical questions to be considered, not least by publishers who, due to their current role in the communication chain, have the opportunity to offer their own contributions to influence the development of the scholarly communication system, and to advance solutions that reflect the new roles publishers will be asked to provide. At the same time, publishers must recognize that changes in scholarly communication are taking place around the world, and some of their choices will be limited by what is happening internationally.

Knowledge creation: why do scholars publish?

It is important for scholars to publish work in prestigious journals in order to validate the results of their research.

University-based scholars and researchers have an important, though not exclusive, role as producers of knowledge. Independent scholars and researchers in government and industrial research and development organizations also contribute to the body of shared knowledge. All are

motivated by the satisfaction derived from creating and disseminating knowledge, by tangible returns from publication in the form of status, salary, and the ability to obtain research funding – or, in the case of industry, by the prospect of commercial gain. The costs of the academic knowledge creation process are borne largely by universities and research institutes, and by the governments and agencies that support them.

Both the volume and the pace of knowledge creation have increased dramatically in recent years, in what has been aptly termed the "knowledge explosion". Among major contributing factors is the priority attached to the communication of research results by the universities and granting councils. Grant recipients are expected to publish their findings in order to allow for the replication of results and further pursuit of particular avenues of inquiry, while university policies and decisions with respect to hiring, promotion, tenure and salary are strongly influenced by publication rates. In the UK, the influence publication has on these latter processes is particularly important as, every four years, the Research Assessment Exercise (RAE) is carried out. The purpose of research assessment is to produce ratings of research quality which are used by the higher education funding bodies to calculate the allocation of research funds.

The RAE is based on peer review of research quality by 60 specialist panels. The members of the panels are selected from the academic world and from commerce and industry, following nominations from learned societies, subject associations and other interested bodies on the basis of their eminence and expertise as practising researchers in their field. (See the Higher Education Funding Council's Web site at http://www.hefc.ac.uk for further details.)

One aspect of research quality measured by the RAE is where the research was published. Currently, weighting is given to research published in leading paper journals. Due to this requirement, any re-engineering of the way scholars communicate their research findings must first address the issue of funding allocation.

The principal vehicles for communication of scholarly and scientific works currently are scholarly journals published by both commercial and not-for-profit organizations. This has allowed commercial publishers, because of their near-monopolies and as a result their captive audience, to command high prices for journal subscriptions. Indeed publishing scholarly journals is certainly a profitable business. According to *Forbes* magazine, Reed Elsevier, the largest publisher of academic journals, probably earned profits of US$225 million dollars before taxes on 1994 revenues of US$600 million from its academic operations (Hays, 1995). The extremely high profits of a publisher such as Reed-Elsevier are in contrast to the enormous number of university libraries which are seeing their budgets cut.

The cost, number and extreme diversity of publications and other information sources have all increased enormously at a time when universities and their libraries are facing a funding crisis. Between 1980 and 1993, total operating expenditures per student declined almost 17 per cent, while the per

student operating budgets of university libraries fell by more than 22 per cent. As a result, the ability of libraries to provide and maintain access to the body of knowledge at the level expected by users has been severely challenged.

The central role of copyright

Underpinning the process of scholarly communication is the concept of copyright. Protection of the ownership of original expression vested in the creator is an essential condition of knowledge creation. Equally essential, both for knowledge creation and for knowledge dissemination, is access to the copyright material for scholarly purposes.

Academic creators are motivated less by monetary reward afforded by copyright (indeed the majority of academic authors supply a publisher with their articles free of charge), than by the enhanced reputation and opportunities which result from wide dissemination of their ideas and research findings, and by the satisfaction deriving from the fact that their efforts have contributed to the world body of knowledge in the field.

In the current copyright model, academic creators forfeit the copyright in their works to journal publishers in order to be published. The publishers then charge the universities which support the scholars during the creative process very high prices to buy back this material. These escalating costs, compounded by publishers' pressure to increase royalties payable either through copyright collectives or directly to rightsholders for copying that falls outside their often narrow view of "fair trading", are leading a growing number of academics to question whether this current model cannot somehow be changed in order to ensure widespread dissemination of scholarly material in the future (AUCC-CARL/ABRC, 1996).

A democratic model for scholarly communication

The result of the increase in the body of knowledge and reduction in library budgets is forcing scholars to consider a new model of communication.

The elements of an alternative paradigm of scholarly communication are beginning to emerge. "Dynamic" and "democratized" are terms that capture the essence of the new model – based less on centralized access to print documents, and more on open access via telecommunications to information networks from various locations in a wide range of electronic formats.

Advances in electronic and communication technologies are already changing the nature and function of libraries. Traditionally dominated by print, while encompassing microfiche, film and audio in their multimedia collections, university libraries have been vast warehouses of published knowledge, storing publications "just in case" scholars might need them. But now, with the evolution of the Internet and with the continued development of electronic databases and CD-ROM technologies, university libraries are becoming access points to knowledge which is often not in print form and not

held in the library itself. The net result is that, in the late 1990s, the university library can best be thought of as a gateway to "just-in-time" resources rather than a repository of published knowledge.

Furthermore, the Internet is becoming firmly established as a facilitator for discussion within particular scholarly communities. At the time of writing this dissertation, there were more than 3,100 electronic discussion lists, not including myriad newsgroups and conferences which are also of interest to scholars. In addition, many scholars and/or their research centres have developed Web sites, and scholars clearly benefit from the growing number of such sites established by government, business and other sources of information. By mid-1996, there were more than 210,000 Web sites (AUCC-CARL/ABRC, 1996), a phenomenal increase over the mere handful in existence in 1994.

It is not only the dissemination of scholarly research which is changing but the process of research too. Research today is becoming more dynamic and increasingly transdisciplinary, performed in networks and multilocational. Electronic media such as e-mail and the World Wide Web allow for the instant exchange of ideas and information in contrast to the traditional communication format of debate through printed publications.

Research capability is no longer dependent on location in urban, comprehensive universities with well-stocked libraries. This is particularly true in the social sciences and the humanities, where the research infrastructure is far less costly than in the natural sciences, medicine and engineering. What matters now is how effectively scholars are connected electronically so that they can share knowledge, data and references, regardless of their location.

The question MCB and other traditional publishers must address is how they can evolve to function in this new paradigm. Indeed one of the most important questions to be answered regards the creation of a new business model which will allow for profitability in the "just-in-time" publishing model. This realignment of publishers with the requirements of the scholars' community is something MCB must achieve. However, it is argued by some academics that commercial publishers of academic scholarly research are no longer required by the scholarly community.

The Faustian bargain

Steven Harnard is one of the most vociferous exponents of academics publishing their own work on the Internet. He argues that the "Faustian bargain" which scholars entered into with publishers is no longer required to allow scholarly work to be published and disseminated to the scholarly community:

> So both the trade author and the esoteric author had to be prepared to make a Faustian bargain with the paper publisher (who was not by the way, the devil either, likewise a victim of the bargain; the only devil would have been the Blind Watchmaker who designed our planet and its means of publication until the advent of the electronic publishing era) . . .

But in a sense the bargain is really only Faustian for the esoteric author. The trade author and publisher share the same desire to restrict their product to those who will pay for it. The esoteric author would just as soon no one had to pay, but he himself is prepared to barter his words' copyright in exchange for the immortality only his publisher can confer on them (Harnard, 1995).

Harnard's view of a world without publishers, or at least a world where all scholars archive copies of their work on their own Web servers, is challenged by other academics. Responding to an article by Harnard in the *Times Higher Education Supplement*, Fuller (1995) argues that Harnard's image of the profit-driven publisher provides a "convenient scapegoat and remedy for academics who feel that they never quite get their message across to all who could potentially benefit from it . . . [Like] all such self-serving stories, its truth is buried under a mountain of mystification". Fuller continues:

> To begin with, it is misleading to suggest, as Harnard does, that authors – even esoteric ones – and publishers have had opposed interests throughout the Gutenberg era. Only in the late 18th century do "authors" come to be regarded as more than just the first stage of the book production process. After chronic book piracy forced publishers to cut authors' commissions and, in some cases, replace them with cheaper scribes, authors retaliated by claiming a special legal status for the kind of work they do which transcends the medium in which they do it: the print may belong to the publisher but the words are the authors' own. A cynic could say that modern copyright laws were thus designed to ensure against low demand by upgrading the quality of what the author supplies.

However much Fuller may disagree with Harnard over the relationship between the scholar and the publisher, it is obvious to anyone analysing the scholarly publishing industry that radical changes in scholarly communication are taking place. There are compelling arguments from both the traditionalists and also the scholars who are promoting "self-publication". Indeed in an excellent article entitled "Yesterday once more", Hibbits (1996) chronicles the arguments that took place during the Gutenberg era. He identifies the issues that are of concern today and suggests these are exactly the same as those which concerned the scribes in the early period.

> Déjà vu
>
> They said it was inadvisable. They said there was nothing to be gained from the radical publishing reform that the new technology permitted. Allowing anyone with the appropriate hardware to publish scholarship would result in losing the actual value added to the works as they moved through the existing system of scholarly communication . . . Readers would bend and eventually break under the weight of unprecedented and unmanageable amounts of dubious literature. Abandoning traditional scholarly outlets would deprive authors of critical means of gaining personal prestige. Cutting neophytes out of the publishing structure would deprive them of a crucial educational experience.

These comments, explains Hibbits, are also recognizable from the earlier context. Five hundred years ago, every one of them was levelled at the scholarly proponents of commercial printing.

> The printing press and the remarkable publishing opportunities it offered European scholars from the mid-fifteenth century were not universally acclaimed . . . fear, short-sightedness and

> misapprehension resulted in outright attacks on the new technology. More than a few academics believed there was nothing to be gained by handing scholarly publishing over to ordinary entrepreneurs like Johann Gutenberg . . . One late fifteenth century Dominican friar, Filippo di Strata and his sympathisers were concerned that scholars turning to commercial printers would lose the benefits of scribes' editorial expertise . . . they were worried that printing would permit spelling mistakes and typographical errors and other technical faults which would mar their work . . . Furthermore the critics of commercial printing believed that it threatened to undermine the substantive quality of published scholarship by enabling material which was not commissioned or pre-approved by the traditional (generally religious or aristocratic) authorities to be widely marketed. Without prior restraints, unscrupulous or unschooled printers were bound to unleash a veritable flood of information, much of it inaccurate, and some of it dangerous. Fra Filippo accused the printers of "vulgarising intellectual life".

Hibbits makes some excellent comparisons between the arguments against electronic publishing today and those against publishing using the early printing press 500 years ago. What becomes clear when reading the arguments put forward by the proponents of electronic self-publishing is that these criticisms will be overcome. What is not clear yet is exactly how the new publishing model will evolve and who will be the key players.

Peer review: new patterns of communication between scholars?

There is no doubt that computer-based communication has changed the behaviour of many scholars and scientists. More rapid and frequent exchanges of information between scholars are occurring in a less formalized way, making the communication of scholarly and scientific information less a product than a source.

For example, scientists in many disciplines use the Internet to exchange data. Frequently these data exchanges lead to changes in experiments and on occasion may lead to a complete reorientation of a research programme. Even if the results of such exchanges are not published, they still contribute to the body of knowledge (Fuller, 1995).

Another example of electronic exchange is the pre-print server at Los Alamos, set up to disseminate the latest knowledge in high-energy physics using the Internet, and bypassing, at least initially, the traditional slow publication process (*New Scientist*, 1995).

Research methods too are being remodelled. Scholars can now conduct their own electronic literature searches on the Internet. "Surfing the Net" is becoming the electronic equivalent of the serendipitous discovery of print material in the library.

As scholars become more adept at using the new electronic and computing technologies, we can expect electronic publishing to become more prevalent and ultimately to achieve widespread recognition as a legitimate form of scholarly communication.

The challenge for editors and publishers of scholarly journals is to confront the range of issues raised by electronic publishing, and to plan wisely for the future. If electronic publishing continues to flourish as scholars take advantage of the benefits of the new technology to disseminate their research results more

rapidly, some in the print medium will not survive; many others will survive but in another form. Thus we may witness a "shake-out" of scholarly publications.

The challenge facing MCB is to recognize that there will be changes in the publishing status quo and that the company must evolve if it is to continue to have a role to play in scholarly communication. The first step in the evolution of MCB must be to identify what part a traditional publisher plays in scholarly communication and what unique value added MCB provides.

Mike Cross

What is value?

What is value, where does it come from and how is it defined?

Michael Porter introduced the concept of the value chain. He defines value as "the amount buyers are willing to pay for what a firm provides them" (Porter, 1985). He goes on to point out that "creating value for buyers which exceeds the cost of doing so is the goal of any generic strategy". It is very important to recognize that value is a purchaser-driven concept: it is the purchasers who decide what is of value to them and what they will pay for.

Every product or service can be viewed as a "package of attributes" (Lancaster, 1966) – attributes which may include physical qualities, but also factors like price, availability and image. All purchase decisions, however unconsciously, involve the consumer in reaching an acceptable balanced compromise between different attributes which go to make up this package. It is the creation of this package of attributes which lies at the heart of the value chain.

Both Kay (1993) and Porter (1985) adopt a quantitative approach, with Porter focusing particularly on cost and Kay on added value. The core of Kay's argument and the area that MCB must focus on is what he terms the "distinctive capabilities" of firms – the capabilities which enable them to create value. Without a thorough understanding of its own distinctive capabilities, MCB will move in the direction of a wish-driven strategy which is often derived from the company mission statement and a vision of what the company would like itself to be, not what it is.

MCB's distinctive capabilities

"What other people can equally see and do is unlikely to be a sustained source of added value" (Porter, 1985). In terms of the new publishing paradigm which is being developed, MCB must ask itself why it will be better at doing something than anyone else. Kay (1993) identifies three distinctive types of capability which a company may have which provide it with a particular ability to create value on a sustained basis, namely:

(1) architecture;

(2) reputation;

(3) innovation.

There is also a fourth potential source of competitive advantage – the ability to exploit a "strategic asset".

MCB's architecture

The architecture of the business can be defined as the web of relationships which the business establishes, both internal and external to the company itself.

The network of relationships established by a company is literally inimitable. However, the extent to which it creates long-term value for the company itself depends on the extent to which that architecture is a feature of the organization, rather than the individuals who make up the organization. Thus the relationships which successful editors establish with their authors and advisory boards will not prove of long-term value to the company which employs them, if they are able to take the authors and advisory board with them if they leave to join a competitor – or indeed to "do it for themselves".

The recent re-engineering of the editorial department at MCB has been undertaken to provide the managing editors with a greater understanding of, and presence in, the academic community, the aim being to provide support for journal editors but ultimately to provide an alternative source of copy if the editor leaves or is inefficient.

A question of reputation (brands)

The importance of reputation depends on the nature of the product, or rather on the basis on which the purchaser selects one product over another. Reputation is particularly relevant where product quality can only be assessed by long-term experience. This is surely true of the academic journal market where a journal's reputation can take many years to be established. This brand reputation of academic journals is one area where MCB can be sure it has a "distinctive capability".

Delivering a higher quality product, where the consumer is incapable of immediately recognizing that higher quality, risks incurring higher costs without a commensurably higher price. Reputation is the mechanism which overcomes this dilemma. When purchasing a journal subscription from MCB or any other publisher the consumer is reliant on the brand image as a means of identifying high quality, as the customers pay for the product before they see it. It is the perceived value of the brand which allows this process to happen. However, it should be noted that, if the brand does not deliver the requisite quality, this could prove a major dent in the brand's perceived image, and one more difficult to recreate than it was to lose.

Reputation is established through the delivery of consistently high quality. In some markets, including academia, word of mouth can establish the reputation of a product very quickly – a particular issue for publishers for whom personal recommendation is an especially important source of sales promotion.

Reputation, states Kay (1993), is also transferable, something of which publishers have long taken advantage. Most consumers of scholarly journals only have a passing interest in who publishes them. It is the journal name or brand which is important. This allows publishers to transfer titles and also in some cases change the editor without the consumer being aware.

The value of innovation

Innovation can often create value. However it is very difficult to appropriate that value to an individual enterprise. The history of technological innovation is frequently characterized by companies which have failed to appropriate the value they have created.

There is a continuing debate about the extent to which technological innovation and differentiation can create sustainable value for publishers. MCB has taken some tentative steps along the path of innovative search mechanisms to enable the user to extract the most value and information from MCB's unique article classification system. However, the market is increasingly demanding open standards – users expect to be able to gain access to information from multiple sources via a uniform interface.

The services provided by the four major subscription agents support this view. These agents are developing a "one-stop shop" for electronic search and retrieval of a library's complete holding. In order for this to be achievable, all the information supplied by the participating publishers must be of the same "flavour" and include pretty much the same fields. MCB has ensured that these systems include the ability to highlight material using MCB's classification criteria but how much use this will generate when 99 per cent of the periodicals included in the system do not have this facility, will be interesting to observe.

It is not difficult to recognize that many of the most successful businesses are those which succeed in combining two or even all three sources of competitive advantage. Sony could be identified as a company which has combined innovation with both architecture and a reputation to create substantial value.

Sony has also achieved what most other companies could never achieve by creating a product for which the market didn't realize it had a need. The personal cassette player or Sony Walkman could be identified as such a product. However, success in the "early adopter" market depends very much on the reputation of the brand. Customers will buy new products with the Sony brand which they would be much less willing to buy from an unknown competitor. The analogy that can be drawn between successful brands in the electronics business and in the publishing business is clear to see.

Identifying strategic assets

The type of strategic asset Kay (1993) identifies in relation to the publishing industry is one which has been critical to the industry's development – the right to exploit exclusive licences in the form of copyrights, or the "Faustian bargain" as Harnard has termed it. It can certainly be argued that is the strategic asset which has been the key source of value for publishers. Its creation lies with the authors. It is therefore perhaps the extent to which publishers are able to add value to this asset – through architecture, reputation and innovation – which defines their strategic advantage – for today at least!

Corporate strategies and the value chain

In seeking to understand the sustainable competitive advance that MCB can carry over into the world of network communication, I shall consider Porter's (1985) notion of a value chain, using this as a basis for looking at the different types of activity in which publishers engage. I believe that only when MCB has developed a thorough understanding of which activities currently make a real contribution in adding value to the products and services it brings to the market, can MCB hope to identify how these activities may change in the information society.

Sustainable strategies

Porter (1985) suggests that there are essentially only three strategies which any business can follow if it seeks to sustain competitive advantage. These are cost leadership and differentiation or focus, with the latter further broken down into cost focus and differentiation focus.

The different strategies are relatively easily distinguished. The first, cost leadership, depends on becoming the low-cost supplier in a particular broad market sector. The second is to achieve a source of uniqueness other than cost. The final strategy is to focus on a much more narrow niche segment of the market, seeking either cost advantage or differentiation within the narrow segment and not attempting to compete on a broader basis.

Within publishing it is difficult to establish the lowest possible cost base which is likely to bring overwhelming competitive advantage. Cost leadership may provide the opportunity for price leadership but very few publishers consistently seek to use price as their primary competitive weapon in the markets which they serve. The focus of most publishers, and certainly within MCB, is essentially on differentiation. Indeed I would argue, using Porter's analysis, that broadly speaking the entire academic publishing community is pursuing the same strategy, namely differentiation focus.

While MCB may not gain its advantage from cost leadership, this does not allow for complacency in the consideration of costs. In the same way that a cost leader must retain product proximity with those who differentiate products in the same market (there is no point in producing a product which does not meet market demand, however cheaply it can be delivered), so a differentiation must retain cost proximity with competitors, particularly in those activities which do not add to the differentiated value of the product.

This notion of retaining cost proximity may not yet apply in the mature paper journal market, but it is certainly a prime consideration in the electronic database market, where often the coverage of the database (i.e. the number of titles) is given more consideration than the value of those titles. Hence the databases compete on cost of coverage, not necessarily value of coverage.

Porter (1985) also discusses the serious risk of being "stuck in the middle", of pursuing all strategies at the expense of an absolutely clear focus on what the company and its business are. Treacy and Wiersema (1995) have recently expanded on this notion by defining three different generic positions, which

they define as value disciplines rather than generic strategies, namely operational excellence, product leadership and customer intimacy. The authors argue that it is essential to follow one (and only one) of these value disciplines as the core of a business; every decision, every action should be shaped by that core value discipline.

The value chain

Porter developed the value chain as a quantitative mechanism for examining the value which a company creates against the costs associated with creating that value. He argues that any company's activities can be divided between core activities – those related directly to the product and support activities. Each of these activities can then be broken down into certain generic classifications of activity.

The value chain model is useful in identifying those activities which generate value, bearing in mind always that value is defined by customer perception. Porter's value chain model does not break down the business functionally, but by business activity, frequently crossing functional borders. None of the activities within an organization can be independent. All are interdependent, and competitive advantage often arises not from the activities themselves but from the linkages between them.

For the purpose of identifying the role of MCB in the world of network publishing, I shall adopt the value chain model as a way of looking at what MCB does, the real functions it performs, the extent to which these functions create value for the ultimate purchaser, and also the functions that the company can perform which are of value to its suppliers. This, it is hoped, will prove particularly valuable in understanding those functions that MCB currently performs which add value.

"A powerful current is sweeping through organizations of all sizes. Traditional 'industrial age' structures based on functional hierarchy are changing into 'information age' structures that are oriented toward collaboration across functions and a focus on business process" (Teng *et al.*, 1996).

A publishing value chain

Porter's original value chain model is of limited assistance in understanding the publishing value chain. More usefully a generic publishing value chain has been devised by Bide (1997). This author explains that he has separated what Porter calls support activities into two groups – strategic activities and support activities, the former overarching the core activities, the latter underpinning them.

The definitions of a publisher's core activities are as follows:

- Content acquisition: the process by which content for a publisher's products is acquired from its creator(s); this includes sourcing and selecting content, assessing its value and negotiating the rights to use it.

- Content development: the process by which content is enhanced through editing or other activities controlled by the publisher (including, for example, picture research).
- Product development and design: the process through which the eventual form and appearance of the final product are conceptualized.
- Project management: activities relating to the control of cost, quality and time-to-market of product realization.
- Content formatting: the preparation of content for publication, what, in the print world, would be called pre-press activities (including, for example, illustration), although increasingly this also involves preparation of content for electronic delivery.
- Marketing: activities related to ensuring that the product is properly matched to market requirements, including pricing decisions (much of the activity which MCB would therefore define as marketing is an editorial responsibility in most publishing companies).
- Promotion: activities designed to stimulate sales – creation and dissemination of meta-information, advertising, leaflets, catalogues, point-of-sale, reviews, author appearances, etc.
- Sales: activities designed to convert promotional activities into sales transactions with either intermediaries or end customers.
- Manufacturing: activities which replicate the product for sale.
- Fulfilment: activities which administer the completed sale, delivering product to the customer and collecting money from the customer.
- Warehousing: the management of the storage of replicated products prior to their sale.
- Customer service: activities which involve a direct interaction with the customer at any point during the pre-sale, sale or after-sale cycle (except for selling activities themselves).
- Other revenue sources: activities which generate revenue from other than product sales, for example, rights sales or licensing, advertising sales, mailing list sales, developing service offerings which complement products (e.g. conference and seminar programmes, product customization, alerting services).

Analysis of the MCB value chain

An analysis of MCB's value chain has been carried out by Bruce (1996) to establish where it is strongest and what MCB's "distinctive capabilities" are. In brief summary, the conclusions from Bruce's analysis, which particularly focused on the future role of electronics, are as follows:

- Inbound logistics – electronically the circulation of pre-prints and open peer review should stand the author in better stead for the acceptance of

submissions; time to publication will be shorter with less involvement from editors; mix of material is less of a concern as the article will be the unit of currency. The publisher may be able to make available unformatted data to researchers.

- Outbound logistics – collection by customers of material held electronically will mean a reduction in cost for the publisher.
- Sales and marketing – wider distribution networks will save on promotion through traditional means.
- Production – more manipulable material will add greater value to content and make it more accessible providing standards are used, e.g. SGML, PDF, etc. (I would also add that storing MCB's data in future proof format can be seen as genuinely adding value.)
- Customer service – after-sales service and help desk requirements will be necessary for any electronic product; lack of high-quality customer care will be the quickest route to losing customers.

Taking Bruce's findings together with Porter's and Kay's notions of competitive advantage, it is possible to identify MCB's true "distinctive capabilities" and map these out against the future of publishing in the twenty-first century. Competitors will find it possible to replicate a number of the processes Bruce identified in the MCB value chain, but others will remain for the medium term at least as a source of competitive advantage. These are the areas MCB must look to exploit in order to be successful in a network future.

The future shape of the industry

We are in the midst of a telecommunications revolution. Telecoms capacity is increasing and, in a direct parallel with the cost of computing, the cost of telecommunications to the user is failing dramatically. In addition we are possibly entering the toughest business decade in history.

As the publishing community moves towards the network model, the role of technology providers is a concern for traditional publishers, and so the thoughts and visions of men such as Bill Gates are of particular interest.

Recently published visions of the future in books by Nicholas Negroponte (1995) or Bill Gates (1995) – at least in their broad technological assumptions – are not some kind of science fantasy. Further, this is a future which is not so far off that anyone – least of all publishers – can simply leave it out of their calculations.

Although these two books are very different from each other, at the heart of each lies an essentially common view of a world in which computer-mediated telecommunications will impinge on all aspects of our lives. Sometime within the next 20 years or so (both Negroponte and Gates are – with reason – cautious about precision in this respect), they forecast that the great majority of businesses and individuals in the developed world will have easy access to networks with inexpensive and, for all intents and purposes, limitless bandwidth, for communication, education, entertainment, information and commerce.

This will be a world where "intelligent" software agents filter that unwanted communication and seek out knowledge on our behalf, learning all the time from our responses to refine their activities. Education will be transformed: a whole world of learning will be only a few keystrokes – or perhaps spoken instructions – away from every child (and indeed every adult, who will remain in lifelong learning). Knowledge workers will be able to relocate their places of work from city centres to more congenial rural environments. The world will be a happier, more democratic and better place to live.

But how do we get there from here?

Neither writer expends much effort in offering a practical answer to that key question. How will we move from the world of the present Internet to this future of high-speed networks? During the writing of this dissertation I came across an article in *Newsday* (Dolinar, 1995) which once again expressed the very real concerns of networking professionals regarding the possibility of a catastrophic collapse of the Internet under the sheer weight of numbers. Although similar predictions have been expressed for at least a couple of years, the authority of those making them is growing all the time. Even those who do not concur with forecasts of catastrophe appear to accept that a steady

deterioration in speed is inevitable in the absence of a substantial change in telecommunications charging models, allowing in some way the matching of pricing to usage.

At the same time, we are seeing reports that suggest that the days of free local telephone calls for many US subscribers must be numbered as heavy Internet usage in some parts of California starts to compromise the efficiency of local circuits which where never designed to support multi-hour online sessions.

In *The Road Ahead*, Gates (1995) is adamant that he is unwilling to accept the tradition that the leader of one era of computer technology has never succeeded in becoming the leader of the following era (a phenomenon not confined to this industry, as we have already seen): "I want to defy historical tradition. Somewhere ahead is the threshold dividing the PC era from the [information] highway era. I want to be among the first to cross over when the moment comes".

This is a particularly interesting concept for traditional publishers and one they must urgently address: how can the leaders of one era ensure that they are amongst the first to cross over to network communications when the moment comes?

Not everyone accepts the visions of Gates and Negroponte of the beneficial impact that technology will have on our society. Others, like Sven Birkets in his book of essays *The Gutenberg Elegies* (1994), paint much more troubled, darker views of this same future.

Birkets is concerned above all by the dehumanizing effects of communication mediated by computers – a communication which tends to eliminate the essential human concepts of place and time and, with them, the "space for reverie". As a university teacher, he has experienced first hand the reduced attention span and "impatience with sustained enquiry" of the current generation of undergraduates. We are all of us perhaps aware of the encroachment of the "sound bite" on our understanding of the world about us.

Publishers looking to re-engineer their businesses to take account of the different challenges that publishing will face, would do well to consider as broadly as possible the impact on their businesses of the possible outcomes which different observers foresee.

What's in store for the traditional publisher?

Both Gates (1995) and Negroponte (1995) refer to the importance of content – but what do they have in mind? What will be the key features of content in the networked world? If there is one word which, above all, characterizes both Gates' and Negroponte's visions of the future of publishing it is customization. The power of the network will lie in the ability of the individual user to obtain exactly (and only) the information which he or she wants, whenever and wherever it is required. This vision is already being fulfilled as more and more

scholarly databases are developed, allowing the user the reassurance that all journals of value are included, while permitting the researcher to retrieve only that material which exactly matches their requirements.

In the section "Analysing and applying the theory", I discussed Steven Harnard's vision of the future of electronic publishing, where material is freely available to anyone (Harnard, 1995). This is in stark contrast to publishing today where authors have submitted to the "Faustian bargain" and allowed publishers to make large profits from their work in order for it to be printed and disseminated. In a profile in the *New York Times*, Esther Dyson agrees with Harnard, at least in terms of intellectual property losing its value. She observes that "whatever I or anyone else may wish to happen – it is inevitable that intellectual property will lose a lot of its market value in a networked world" (Dreifus, 1996).

Dyson's is an essentially economic argument. This is a world where the barriers to entry are increasingly being removed and everyone can become their own publisher on the Web. Thus the available supply of content will be increased – indeed there will be a glut of content available. With distribution costs approaching zero, "we will all pay less".

An essential part of the argument is that the market value of much content is both created and recognized through its widespread distribution. This was originally only something which a commercial publisher could provide.

What of the role of publishers? Unless they are managing the distribution of very high-value content, there must be a major change in what they do. Dyson argues that while it will be "easy to copy information, it will be hard to find it" (1996). This implies that there will be a very important role for subscription-based material to perform in aggregating, filtering, assembling, and integrating "free" content in a way which adds substantial value in the eyes of the user. Here are the subscription-based products of the future.

This may sound very similar to what MCB does now, particularly given the investments of the past two years in an electronic search and retrieval mechanism backed by a unique article classification/scoring system enabling users to define exactly what material they wish to receive. This is the true "distinctive capability" which MCB must develop, which is possibly somewhat removed from what it believes its real skills are today. Value will be created through process and service (that is to say, not just process and services on the demand side of the business but on the supply side also), not from the control of unique assets. The ability to define and certify quality and authenticity will be increasingly sought out. In Dyson's words, "The new world is not value-added, it's garbage subtracted" (1996). Much of this work involves what we learned several years ago (from an Apple executive) to call "non-trivial human activity". The challenge for MCB in adapting to this model will be far from trivial.

Online services

The requirements of scholarly databases of the future can be extracted from what was required from traditional online services in the past.

Online publishing is nearly 30 years old. Looking back, there was as much "hype" in the publishing community in the early days of online publishing as there has been in the early days of the WWW. However, online has remained a somewhat arcane business for most publishers, even for many of those who have been long-time content providers for online hosts.

There are nevertheless some notable features of this "traditional" online business which it is worth noting. It is particularly significant that certain types of activity – literature search, for example – would now be unimaginable without access to online resources. The knowledge that a single resource can deliver what you need to know is the critical measure of value. This is a very different focus from most publishing. Publishers often stress one of their core values as being selection of content.

Although these online services have spent huge sums of money on designing user interfaces and tools to help information professionals easily identify and retrieve material, from the publisher's point of view one of the most interesting features of the different types of online services is that few of them originate much, if any, of their own content. Most depend almost entirely on information provided by third parties. Some of those third parties – the abstracting and indexing services – depend largely on the primary publishers for the content which they aggregate and which is the mainstay of the scientific databases.

Few secondary publishers still write their own abstracts and fewer still pass genuine qualitative judgement on the material which they review (beyond making a decision to cover a particular source). Somewhere back along the information chain, most of these online sources depend on publishers of conventional printed products – newspapers, magazines, journals, directories, even sometimes books (or of businesses like the newswires which were originally established to support these conventional publishing businesses).

One significant feature of "traditional" online is the limited way in which network communication has been used. The most challenging aspects of networks for publishers is the extent to which interactivity is created, allowing the reader to become part of the product rather than simply a recipient of information. This feature has remained largely under-exploited by traditional online services, not least perhaps because no direct link has existed to the publisher.

Is content really king of network communication?

Content is, perhaps, king in that without content there is no service. But as Esther Dyson has suggested, little of the content will be unique (Dreifus, 1996). Indeed the key task of a publisher is to avoid delivering the same piece of information at a cost, which can be garnered from other sources for free. Certainly, then, there is value in the content in its totality but perhaps rather less at the level of the particular.

Sources of content have high value only to the extent that the content is unique and compelling. Content such as this adds value to the overall resource to an extent which is entirely unrelated to the volume, and the owners of such content can command a high price for access to it.

Content of this value is what MCB must succeed in procuring if it is to be able to charge a premium for access to its products. However, the question which must be addressed is how MCB can organize and promote its products in such a way that they are identified as the place where the best scholars in their fields wish to publish their articles. This is a difficult task to achieve and one which will only be possible through the assessment of exactly what value added an academic requires from a publishing house. The role of the publisher is certainly changing, with the traditional value added tasks of the publisher being available from other sources, not least the potential for dissemination of one's own work which the Internet provides.

Leveraging the brand

The value of information lies primarily in the brand. This is true not only for consumers of the material but also for suppliers. MCB has some of the market-leading brands. The challenge it faces over the coming years is how these brands can be leveraged and managed in such a way that they continue to be the market leaders in ten years' time.

It is the case, as I identified earlier, that much of the unique value of compelling content lies with its creators – not the publisher but the author. Authors can of course establish their reputation in ways other than authorship and publication. However, for the time being at least, promotion, tenure, salary, etc. are decided on the basis of published research, with the best journals in their fields implying a higher weighting on the research published therein. So for the moment at least authors search out the best brands to publish their research in, and as a result the best brands attract the best research.

This model may be about to change. Certainly in the USA at least, the research assessment exercise is now looking for new ways to assess quality of research. Scholars are finding new avenues in which to publish their manuscripts, and it is against this changing background that research assessment must now work. The changes taking place in the USA are particularly worrying for publishers. Research assessment is now carried out by the scholars' "peers" who decide upon the quality of research independently from where the research may have been published. Indeed an article published in a little known electronic journal may well have a higher rating than one published in one of the traditional paper heavyweights (Hibbits, 1996). This provides publishers with a two-fold problem:

(1) How can they attract the best research if the brand of the journal has little effect on research assessment?

(2) How can publishers continue to sell their material at a price premium if the content is not unique or compelling?

The answers to both these questions lie in providing the necessary services to scholars which make the inclusion of their material in MCB publications most likely.

Many publishers promote the brands of their products to their consumers, the good brands being promoted as standing for something tangible. MCB's challenge is to promote the brand as a measure of something tangible for its suppliers.

Most of the early World Wide Web sites developed by publishers were, in one way or another, designed to support existing brand positions in the world of the "atoms". However, MCB's task is to develop its site in ways which, while still primarily in support of its products, are using the potential of network communication in ways which would be difficult or impossible in print.

An example of this kind of development can be found at McGraw-Hill (http://www.betabooks.mcgraw-hill.com/) which has recently launched a new feature on its site to allow visitors to "preview" and comment on titles from its computer book list pre-publication. This is an example of the interactivity of electronic communication and possibly the major area to be developed by publishers as a source of value added for their suppliers.

The virtual community

One of the major benefits to publishers that use the Internet is its ability to link people from literally any location around the world into a virtual community. An example of this model can be found at BioMedNet (http://www.biomednet.com), a site established by Current Science, a former publisher of conventional science journals. The site is designed to form a worldwide community of biomedical scientists.

Richard Charkin, CEO of Current Science, defines a community as being made up of people with common interests, who share a common world view. They communicate and trade with each other and to some extent compete with each other; critically, Charkin believes, they combine to keep others on the outside. The facilities offered to members include, among other things, public and private meeting rooms and discussion groups.

This idea of meeting rooms and discussion groups in association with the concept of combining to keep others on the outside is particularly interesting. One of the problems with the Internet when material is published and comments are requested, state some of its detractors, is the fact that those commenting may have no "qualifications" in the area to be discussed. This is of course true and why the notion of a closed virtual community of like-minded people is particularly interesting.

Higher education institutions (HEIs) throughout the developed world are universally connected to the Internet, but the ideal of a "wired" campus is still far from a reality in all too many of them. However, the attraction of network dissemination is widely recognized, which means that investment in technology is undoubtedly easier to justify politically than investment in acquisition of print-on-paper materials.

The increase in demand from HEIs for delivery of content in digital format is growing enormously. This is against a background of increases in student numbers which has not been matched by an increase in library funds. The view held by many commentators inside and outside the industry is that the electronic delivery of content to HEIs is well advanced along its "S" curve.

So what is the role of the scientific journal? Bide and Shatzkin (1995) believe that:

> the publication process is not primarily one of dissemination but is actually much more complex, incorporating questions of validation, authentication, scientific precedence and archiving; in this role it provides a service to science and to the scientific community although it may at face value be seen as providing a product – the printed journal issue.

Mike Cross

Peer review

The review of scholars' work by their peers is possibly the most important element of scholarly communication, and it is on the basis of the "quality" of review that an academic's promotion, tenure, salary and future prospects are decided.

Peer review is a process whereby editors send manuscripts to several established researchers in the author's field, then use these reviews to decide whether or not to publish the manuscript. The process is based on the assumption that active researchers in the same field are best placed to determine the validity and usefulness of a contribution (Rathie, 1994).

Peer review is an intrinsic part of the traditional scholarly publication process. It aims to ensure the quality of information disseminated and to develop a cumulative tradition within a discipline (Weber, 1987).

While the formulation of a cumulative tradition encourages progress within a given paradigm, it may also discourage new ideas and innovation (Harnard, 1993; Horrobin, 1982). After reviewing the existing literature, Armstrong (1982) created what he called the "author's formula" for increasing the likelihood and speed of acceptance of journal articles. He stated that authors should:

- *not* pick an important problem;
- *not* challenge existing beliefs;
- *not* obtain surprising results;
- *not* use simple methods;
- *not* provide full disclosure;
- *not* write clearly.

Some feel that peer review has served most of its purposes well. It has been particularly good at ensuring the acceptance of good work and rejection of poor, but because of bias and a "lack of sound judgement it fails disastrously at letting the best through unimpeded" (Armstrong, 1982).

There has long been disagreement over the ethics, methodology and merits of such self-examination due to the need for citation for advancement. The detractors argue that, rather than representing the majority of scholars, the vast majority of articles published are actually written by a small minority of researchers (Mahoney, 1985). This is due in part to the recruitment of those with numerous publications onto the editorial boards of these journals, and the fact that these individuals also require citation of their work for their own career advancement. While there are in theory many potentially qualified referees, the problem in practice is that the editors are not aware of them so they habitually consult with the same set of referees (Harnard, 1993). When the

editors or reviewers have a vested interest in a specific line of research, they may subconsciously or even consciously reject an article if they consider it as being potentially detrimental to their own future sources of funding.

Most reviewing is performed "double-blind" whereby the authors do not know the names of the reviewers and the reviewers receive papers which do not include the name of the authors or their institutions. In practice, however, it is often easy for the reviewers to determine the authors from citations, from references to previous articles, or because of a knowledge of research being undertaken by colleagues.

Some have suggested that anonymous peer review does little but protect the referees, allowing them to provide unjustified or irrelevant reviews without providing any recourse for the authors (Peters and Ceci, 1982).

There is often little agreement between reviewers as to the worthiness of submitted articles. While many feel such disagreement should be minimized or eliminated, others consider such divergent opinion as natural, healthy and even necessary for true progress in research. The closed and anonymous process of peer review leads to an "unrepresentative impression of univocality" where in fact there is a much wider range of opinion (Harnard, 1979).

Harnard (1991) also points out the problems with timeliness in the traditional peer review process:

> The refereeing may take anywhere from three weeks to three months. Then the author revises in response to the peer evaluation, and when his article is finally accepted, it again takes between three months to [sic] nine months or more before the published version appears. That's not the end of the wait, however, but only the beginning, for now the author must wait until his peers actually read and respond in some way to his work . . . It usually takes several years, however, before the literature responds to the author's contribution, if it responds at all, and by that time the author, more likely than not, is thinking about something else.

Hibbits (1996) questions further the "other values" supposedly added by current editorial and publishing procedures, and suggests they may have been overstated. He focuses on the notion of having articles published in mainstream journals, and while he recognizes that publishing in this way registers them for credit and recognition within the scholarly community, he argues that the registration procedure is very inexact:

> Not only are articles often printed months after their "official" publication dates, but as far as establishing intellectual property goes, it is virtually impossible to tell whether one article in a "Fall 1995" issue of one journal actually pre-dated (or post-dated) another on the same subject in the "Fall 1995" issue of a second journal.

Finally, the majority of papers submitted to prestigious paper journals must currently be rejected because they cannot afford to publish them (Turoff and Hiltz, 1982). Most journals have page limitations because of the physical size limitations of the paper media.

Mike Cross

Maintaining competitive advantage

My analysis of the current publishing environment was carried out against a background of increasing dissatisfaction among scholars with the present status quo of the publishing communication chain. I carried out the analysis to highlight the problems and perceived changes, and, possibly most importantly, to identify those areas of the publishing value chain which MCB could continue to market as its "distinctive capabilities".

Publishing in the twenty-first century will call for different value propositions from the three main players, namely the creator, publisher (who could well have a name change) and consumer. Creators have access to the technology to publish their own material without the need for the traditional publisher. Technology is available to ensure the content, grammar and aesthetics of an article are equally as good as any which the traditional publisher could provide. Consumers are becoming more intelligent in their information requirements, and as more and more content becomes available, it will be only the unique and best which can command a price premium.

It has become clear that the core areas a publisher wishing to become successful in the twenty-first century will need to address are:

- relationship management;
- reputation/brands;
- supply chain management;
- exploitation of a publisher's strategic assets;
- content development;
- marketing;
- venture capitalism;
- promotion.

The transition of MCB's competitive advantages to those required in the twenty-first century will not be easy. However, the company is in a better position than most to make the transition. It has the brands, the start of a closer relationship with its suppliers (Literati initiatives) and the expertise as a venture capitalist. Indeed, being a venture capitalist is one of the main roles Gordon Wills (co-owner of MCB) identifies as a future role of publishers.

So, what are the options?

Evaluation of options

Option one: do nothing

This option has already been discounted by the board of MCB University Press by its decision to invest over £2 million in electronic publishing. The option to

proceed for the foreseeable future as a paper-only publisher has thus been rejected.

Option two: continue slowly along the path of "electronification" of MCB publications

As identified above MCB has invested over £2 million in electronic publishing. However, the majority of the developments at this time are concerned with the demand side of the business, with very few programmes being undertaken to ensure the future supply of quality copy (although it must be recognized that the recent changes to the editorial departments have started, initially at least, to recognize the importance of this area of the business).

Developing quality products to market to customers is essential if MCB is to continue to thrive. However, the majority of the products under current development assume a level of quality content which may not necessarily be available in the medium term. Authors currently are motivated to publish in traditional academic journals to ensure promotion, tenure, recognition and salary.

There is one possible fly in the ointment. It has been pointed out that the invention of the scientific journal occurred at the time when it became impossible for every scientist to gather in a single room to discuss issues of common interest. This possibility is re-establishing itself, at least in theory. Complete communities of scientists can once again gather in a virtual room to communicate with one another. The future of the journal lies where it has always lain – in the hands of the scientific community, which has proved thus far to be extremely conservative in its attitude to change in this respect.

However, if the journal (whether paper or electronic) proves to have outlived its usefulness to the community it serves, then it will simply disappear. There can be no certainty that whatever succeeds it will provide commercial opportunities either to current practitioners or to those who would attack their position (Negroponte, 1995).

If MCB is to have a role to play in the future publishing paradigm it must work closely with its suppliers, as they are possibly the one source of competitive advantage which can be carried over into the new era. Product development programmes that do not ensure the procurement of quality articles will not ensure the long-term success of MCB.

This option is not recommended.

Option three: leverage MCB's major brands along the supply chain and nurture a meritocratic community which will work together to further the dissemination of scholarly communication

It is probably unusual for the reader of a journal to be able to identify the publisher without looking at the title page, as it is for a reader of a novel. Although the name of the publisher may be familiar enough, it is the brand of the journal title itself that carries the great bulk of the value reputation. For as

long as the peer-reviewed journal article remains central to academic advancement, the value of the journal brand appears to be secure whether delivery is by print-on-paper or by network.

The essential conservatism of the academic market places a very high value on the individual brand which journal titles represent. It is clear that a premium is to some extent fragile – not perhaps to direct competition but to a fundamental change in academia itself. One question MCB must address is whether such a change is more or less likely in a network environment.

The journal brand is essential not only in maintaining subscriptions but also to generating submissions. All surveys of the reasons why authors choose to submit a paper to a particular journal put "academic reputation" firmly at the top of the list.

However, there is a very close relationship between a new journal's ability to attract papers and its ability to attract subscribers. The two are intimately linked and the reputation of the publisher contributes little either way. The link with a high-reputation set of academics is the primary key to success.

Once a journal is established, the publisher's reputation remains of negligible importance to its value. However, the reputation of the journal title itself is paramount. In essence, the total value of a journal publisher lies in the aggregate value of the journal brand reputations and the future cash flows which these represent. These reputations are built and maintained by the perceived quality of the content – a combination of what is actually published and the continuing reputation of the editor and the editorial board.

The importance of the reputation of peer-reviewed journals to the market-place – the author/reader – cannot be underestimated. The extent to which the article is actually read in the journal is generally held to be of secondary importance. What matters is that it is published and then cited by others, which continues to be the primary source of academic reputation and advancement. This is a self-perpetuating phenomenon.

However, as discussed in detail earlier in this study, electronic communication is providing scholars with new means of disseminating their work. Academics who argued against the validity, methodology and ethics of the traditional peer review process are challenging the role of the paper journal as the vehicle by which academic achievement should be measured. Other academics are supporting the notion of self-publication. This is the background against which MCB must compete. On the one hand it seems that holders of the brands have a monopoly on the academic market-place. However, on the other, many scholars are canvassing for a complete change in scholarly communication.

If MCB is to evolve in line with the academics' requirements, it must provide the services which academics are requesting. The first and major area of discussion is that of peer review. MCB has the brands and the virtual community to put forward a new model of meritocratic scholarly research appraisal. If MCB can successfully leverage its brands along the supply chain, it can attract submissions and re-engineer the review process into one which

exactly meets academics' requirements. Only by working closely with academics in this way can MCB be sure of receiving quality submissions, be these submissions to a journal, a forum or whatever new form of scholarly vehicle emerges over the coming years.

This option is recommended.

The role of PeerNet

The challenge from academics' "own label" offerings is forcing MCB to ask fundamental questions about brand equity and how new ways of delivering value in the supply chain can be identified.

That the value of information lies primarily in the brand is true both for consumers of the material and also for suppliers. MCB has a number of the market-leading brands, but it faces the challenge of ensuring that these remain market leaders into the future.

The influence of publication on hiring, promotion, tenure and salary is extremely important. In the UK, for example, the Research Assessment Exercise (RAE) is carried out every four years, to produce ratings of research quality to enable the higher education funding bodies to allocate research funds.

It is against this background that UK scholars take the decisions on where to publish their research. However, the review procedure necessary for a journal if it is to survive the scrutiny of research assessment exercises is being challenged by a number of scholars who see is as having little actual value for scholarly communication. If MCB is to provide an alternative model for meritocratic review, it must provide the answer to two fundamental questions:

(1) Will it attract submissions?

(2) Will it be recognized for research assessment?

Will it attract submissions?

The failure of some electronic journals which implement open peer review or peer commentary is primarily due to their inability to gain prestige within the scientific community. Indeed the failure of journals such as *Mental Workload* and *Legitech* can be directly related to their lack of prestige, which did not warrant submission or refereeing by "prestigious" members (Talwar, 1994).

However, this is a problem MCB can overcome by branding the pre-print area under the banner of the journal brand. It was identified in the section "What is value?" that journal brands (or franchises as some publishers refer to them) not only maintain subscriptions but are also essential in generating submissions. The academic market places a high value on the individual brand which journal titles represent.

The particular value of a journal publisher rests in the aggregate value of its journals' brand reputations and the cash flows which these represent. These reputations are established on the perceived quality of the content. MCB has

some of the leading brands in its field and as such attracts quality copy. There is no reason to suggest this would not continue to be the case if a form of open peer review was instigated on article pre-prints.

However, the willingness of both authors and reviewers to engage in this process depends greatly upon the professionalism and "netiquette" exhibited by the contributors. The philosophy behind this model is that the perceived risks on the one hand are outweighed by the benefits to the authors on the other, of quicker and more extensive feedback, and the increased opportunity for peers to shape a submission before it is set in stone through publication.

A number of scholars have voiced their support for a more open review process:

> Ultimately, it would provide a better function than traditional peer review . . . it would not suppress or create obstructions for innovative or experimental papers, it would expose scholarship to the comments of all scholars, and it would make readers' comments available for all to see . . . reducing the chances of arbitrary review in the first place (Hibbits, 1996).

Will it be recognized?

Amongst other criteria, the Research Assessment Exercise in the UK provides weighting on research which has been published in the top peer-reviewed academic journals.

The RAE has already accepted a number of electronic journals as providing the validity of research required. Amongst these journals is *Psycoloquy*, an international fully refereed electronic journal. Therefore there is nothing to suggest that a currently accepted journal which elevates its review procedure to a more democratic process should not be accepted. The 1996 RAE's findings have just been published, but it is difficult to predict the nature of the scholarly publishing community in four years' time. At that time the RAE will undoubtedly have to re-examine its criteria for journal acceptance. Hibbits, although talking about American law publishing, explains that the assessment of research is currently changing:

> In particular, prestige will not necessarily win someone tenure and promotion – at many American law schools, scholarship is judged not according to where an article is placed, but rather according to how good evaluators (especially external evaluators) deem it to be . . . This not infrequently results in non-elite published and even, on occasion, as-yet-unpublished articles getting good reviews, and well published "prestigious" articles getting trashed (Hibbits, 1996).

Implementing PeerNet

Engaging staff to focus constructively on improving corporate performance and satisfying internal and external stakeholders is essential. Talwar (1992) comments that business process re-engineering "requires us to build and communicate a shared understanding of the organisation's preferred future, create an environment and infrastructure that actively promotes learning and allows imagination, not conditioning to guide our decisions".

Most of the world's universities and research institutions are linked together by various international electronic networks called collectively the "Net". One

of the major features of the Net is e-mail, allowing comments from one person to be disseminated to another regardless of where they are in the world. The result of this technology was the formation of a number of discussion groups, where the discussion was devoted to specific topics. However, because these groups were unmoderated (meaning anyone with an e-mail account could post a message), it often resulted in a free-for-all, with the result that these groups were quite chaotic.

Unfortunately when the notion of peer review of material using the Internet is mentioned, most people expect that it will be like these unmoderated news groups, with anyone who has access to e-mail being able to pass comment on a scholar's work.

If pre-print open review is to be successfully achieved for MCB journals, the qualifications of the reviewers who are able to comment on a piece of research must be confirmed. I believe that by restricting access to the reviewing area to members of MCB's Literati Club we can be sure that only qualified commentators will provide author feedback.

How it would work

The MCB Literati Club is made up of 15,000 authors who have previously had an article published in an MCB journal. It is these people (and only these) who would have access to the MCB pre-print review area. In this way, authors submitting their work can be assured that their research will get serious consideration and feedback: the articles would be meritocratically reviewed by a panel of 15,000 experts.

This review process will be prototyped on a selection of MCB titles. The process of selection to determine which titles will be included will be carried out by the publishing director, the associate director of editorial, and the author. The aim of this selection process is to choose a cross section of journals so as to measure the take-up across disciplines, and identify which if any subject areas prove more open to true peer commentary than others. Participation in the open peer review process by Literati Club members will be voluntary.

The stages of the submission process would be as follows:

(1) Authors submit their papers to the journal pre-print area.

(2) All submissions are recorded and a unique identifier assigned.

(3) The administrator has the ability to preview the article submitted prior to opening it for review. Submissions not meeting the journal criteria can be passed to another MCB journal or, if no journal fits the requirement, the article will be passed to the Emerald virtual academy (a database of management research papers).

(4) Once the paper is accepted the administrator must decide which reviewers are best qualified to review it. This is done by running the subject of the paper against the Literati database. Any matches found will be contacted and invited to access the paper and to provide peer feedback.

(5) The reviewers will have access to both the review and an evaluation form on to which grades can be entered. The paper is graded according to several criteria (relevance, originality, readability) on a scale from one to three where one is the poorest and three the best. The reviewer must also supply commentary which is available to both the author and other reviewers. In addition the reviewer is asked to include private comments, to be used in the event that a question is asked of the reviewer as to why, say, a paper scored a two and not a three for a particular criterion.

(6) In addition to scoring and providing commentary on each paper, the reviewer is also asked to rank the paper in relation to other articles submitted to that journal.

(7) The author collects the reviews and scores and amends the paper in line with the reviewers' feedback.

(8) The author then submits the article for publication.

(9) The editor now has the option of accepting the paper for publication or sending the paper for a formal blind review process.

The benefit of this process to the authors is that they receive constructive input and feedback on their articles from other researchers in the field. In addition submissions to the pre-print area are not limited in the way that submissions to a journal are on the basis of pagination, thereby maximizing the dissemination of scholarly communication.

This form of pre-publish communication would be particularly beneficial to new authors who have yet to develop their own networks with whom to prototype a paper prior to formal submission to a journal. The benefit to experienced authors would be that they could be sure that their paper would get a "fair hearing" due to the open nature of the reviewers' comments.

The benefits of re-engineering MCB's supply chain to take account of this new publishing model will ensure that MCB journals continue to attract quality submissions by providing the services that academics require. This would remove any need for academics to sign up with a competitor or indeed to "do it for themselves".

Implementation issues

This alteration in the article supply process is a major change for MCB journals and like any new process will take some time to become established. Two of the biggest obstacles to better supply chain management occur at the outset of the improvement process: first, in establishing clarity, about what is to be achieved and where to start; second, in gaining the necessary commitment and understanding from management and staff to make it happen.

The degree to which an individual adopts new ideas relatively early compared with other members of a social group is known as "innovativeness". Broadly speaking, according to Rogers (1983) there are five "adopter"

categories. First are the innovators, who are eager to try new ideas and are suitably financially placed to take risks. They will introduce the innovation by importing it into their social system. Once the innovation has been introduced, the early adopters will be the next to catch on. These have the greatest degree of opinion leadership (as they are not too far ahead of their peers) and will be sought by the change agents to speed up the diffusion processes. The early majority adopt new ideas just before the average number of the social system and, following these (unsurprisingly), the late majority. These latter tend to adopt due to economic necessity or increasing work pressure. Finally come the laggards, who tend to resist innovation in favour of tradition.

Rogers' notion of the degree to which individuals accept innovation will prove useful in the selection of journals to be used in the prototyping phase of PeerNet. The criteria for selecting journals for inclusion will ensure that journals selected are edited and managed by innovators/early adopters. This should help in the take-up of the idea and the individual's willingness to experiment.

Conclusion

It is clear – and unsurprising – that it is the brand value (as represented by individual journal titles) which is the key source of competitive advantage in the journals market. However, this value only generates the profitability that it does because of the "natural monopoly" which a particular journal brand represents within its own speciality – and the considerable barrier which the incumbent brand represents for any potential competitor. There is no potential for direct substitution.

How does this concept of value "map" onto the networked future? I suggest that, potentially at least, this core value maps extremely well. If we accept the argument put forward by many commentators that the problem will be in assessing the quality of available information (referring to what Esther Dyson calls "garbage subtracted, not value added"), then journal publishers are very well placed indeed to use the brand value of their titles to guarantee the quality and authenticity of their content.

Nevertheless I suggest that the brand proposition is not sufficient on its own to ensure the future of MCB. It is only by extending its relationships with its suppliers and within academia that the company can be sure of developing the products that scholars require. As long as the publisher delivers a publishing communication system which meets academics' requirements, be that a communication system delivered in print-on-paper or by network communication, the requirement for scholars to develop self-publication systems can be removed and the future of the publisher assured.

Finally, the increase in service required if the publisher is to maintain its position in the publishing chain can have only one result – a substantial increase in the cost of journal publication. Even when print-on-paper publications cease altogether, the cost savings from manufacturing and distribution will not necessarily outweigh the additional costs of "pre-press" activities.

Bibliography

Armstrong, J.S. (1982), "Research on scientific journals: implications for editors and authors", *Journal of Forecasting*, No. 1.

Association of American Universities Research Libraries Project. Report of the AAU Task Force. (Washington, D.C. Association of Research Libraries, 1994), http://arl.cni.org

AUCC-CARL/ABRC (1996), *The Changing World of Scholarly Communication Challenges and Choices for Canada*, Final report of the AUCC-CARL/ABRC Task Force on Academic Libraries and Scholarly Communication, November, available at http://homer.aucc.ca/english/sites/auccarl.htm

Bennis, W. (1994), *An Invented Life*, Century, London.

Bide, M. (1997), *The Impact on the Publishing Value Chain from Online Networks*, Publishing in the 21st Century Research Series, Vista Computer Services.

Bide, M. and Shatzkin, M. (1995), *The Organisational Impact of Publishing in New Media*, Publishing in the 21st Century Research Series, Vista Computer Services.

Birkets, S. (1994), *The Gutenberg Elegies*, Faber & Faber, Boston and London.

Booz, Allen and Hamilton (1991), *Pan-European Pricing of Consumer Goods*, Booz, Allen and Hamilton, London.

Bower, M. and Garda, R.A. (1986), "The role of marketing in management", in Buell, V.P. (Ed.), *Handbook of Modern Marketing*, McGraw-Hill, New York.

Brady, J. and Davis, I. (1993), "Marketing's mid-life crisis", *McKinsey Quarterly*, No. 2, pp. 17-28.

Bruce, B. (1996), "Strategic alliances and structures for electronic futures", MBA Dissertation, International Management Centres.

Business Intelligence (1994), *Re-engineering: The Critical Success Factors, Management Today* in association with Business Intelligence, London.

Clifford, D.K. and Cavanagh, R.E. (1985), *The Winning Performance: How America's High Growth Mid-size Companies Succeed*, Sedgwick & Jackson, London.

Coopers & Lybrand (1992), "The ascendancy of own-labels", paper read by J. Gloover, Food and Drink Conference, Templeton College, Oxford, 29 January.

CSC Index (1994), State of Re-engineering Report, North America and Europe, Boston, MA.

Davenport, T. and Short, J. (1990), "The new industrial engineering: information technology and business process redesigned", *Sloan Management Review*, Summer.

Davenport, T. and Stoddard, D. (1994), "Re-engineering: business change of mythic proportions?", *Management Information Systems Quarterly*, June, pp. 121-7.

Dolinar, L. (1995), "The Internet in knots", *Newsday*, 15 September.

Dreifus, C. (1996), "The cyber-maxims of Esther Dyson", *New York Times Magazine*, 7 July.

Drucker, P.F. (1974), *Management: Tasks, Responsibilities, Practices*, Harper & Row.

Earl, M. and Khan, B. (1994), "How new is business process redesign?", *European Management Journal*, Vol. 12 No. 1, pp. 20-30.

Edwards, C. and Braganza, A. (1994), "The business process redesign web: a framework to classify BPR initiatives and plan their implementation", paper read at the Second European Academic Conference on BPR, Cranfield.

Farquhar, P. (1989), "Managing brand equity", *Marketing Research*, September, pp. 24-33.

Fuller, S. (1995), Response to Harnard, S., "The post-Gutenberg galaxy: how to get there from here", *Times Higher Education Supplement*, 12 May.

Gates, B. (1995), *The Road Ahead*, Viking Penguin, New York and London.

Glueck, W. F. (1990), *Business Policy and Strategic Management*, McGraw Hill, New York.

Grint, K. and Willcocks, L. (1995), *Business Process in Theory and Practice: Business Paradise Regained?*, Templeton College, Oxford.

Haley, K., Plewa, J. and Watts, J. (1993), "Reengineering tops CIO's menu", *Datamation*, Vol. 39 No. 8, pp. 73-4.

Halhead, R. (1996), "Breaking down barriers to free information exchange", *Logistics Information Management*, Vol. 8 No. 1.

Hamel, G. and Pralahad, N. (1994), *Competing for the Future*, Harvard Business School Press, Boston, MA.

Hammer, M. (1990), "Re-engineering work: don't automate, obliterate", *Harvard Business Review*, July-August.

Hammer, M. (1993), Transcript from a radio interview, "In Business", Radio 4, 27 October.

Hammer, M. and Champy, J. (1993), *Re-engineering the Corporation*, HarperCollins, New York.

Handy, C. (1993), *Understanding Organisations*, Penguin.

Harnard, S. (1979), "Creative disagreement", *The Sciences*, Vol. 19.

Harnard, S. (1991), "Post-Gutenberg galaxy: the fourth revolution in the means of production of knowledge", *Public Access Computer System Review*, Vol. 2 No.1.

Harnard, S. (1993), "Implementing peer review on the Net", in International Conference on Refereed Electronic Journals: Towards a Consortium for Networked Publications, University of Manitoba, Winnipeg.

Harnard, S. (1995), "Electronic scholarly publication: quo vadis?", *Serials Review*, Vol. 21 No. 1, pp. 70-2.

Hays, J.R. (1995), "The Internet's first victim?", *Forbes*, 18 December.

Hibbits, B.J. (1996), "Yesterday once more", *Akron Law Review*, No. 267.

Homa, P. (1995), "Business process re-engineering theory and evidence-based practice", *Business Process Re-engineering and Management Journal*, Vol. 1 No. 3.

Horrobin, D.F. (1982), "Peer review: a philosophically faulty concept which is proving disastrous for science", *The Behavioural and Brain Sciences*, Vol. 5 No. 2.

Houlihan, J.B. (1985), "International supply chain management", *International Journal of Physical Distribution & Materials Management*, Vol. 15 No. 1, pp. 51-66.

Jones, T.C. and Riley, D.W. (1987), "Using inventory for competitive advantage through supply chain management", *International Journal of Physical Distribution & Materials Management*, Vol. 17 No. 2, pp. 94-104.

Kay, J. (1993), *Foundations of Corporate Success*, Oxford University Press, Oxford.

Kearney, A.T. (1993), *Logistics Excellence in Europe*.

King, S. (1991), "Brand-building in the 1990s", *Journal of Marketing Management*, Vol. 7 No. 1, pp. 3-13.

King, S. (1994), "Brand building and market research", in Jenkins, M. and Knox, S.D. (Eds), *Advances in Consumer Marketing*, Kogan Page, London.

Knox, S. (1995), "Re-engineering brand management practices within an integrated environment", *Journal of Marketing Practice*, Vol. 1 No. 2.

Lancaster, K.J. (1966), "A new approach to consumer theory", *Journal of Political Economy*, April.

McHugh, P., Merli, G. and Wheeler, W. (1995), *Beyond Business Process Re-engineering*, John Wiley, Chichester.

Mahoney, M.J. (1985), "Open exchange and epistemic progress", *American Psychologist*, Vol. 40 No. 1.

Majone, G. (1976-7), "The use of policy analysis", in *The Future and the Past: Essays on Programs*, Russell Sage Foundation Annual Report.

Marsick, V. (1994), "Trends in managerial reinvention", *Management Learning*, Vol. 25 No. 1, pp. 11-33.

Miller, D. (1993), "The architecture of simplicity", *Academy of Management Review*, Vol. 18 No. 1.

Mintzberg, H. (1987), "Five Ps for strategy", *California Management Review*, Vol. 30.

Mintzberg, H. and Walters, J.A. (1995), "Tracking strategy in an entrepreneurial firm", *The Academy of Management Journal*, Vol. 38, pp. 465-99.

Morgan, G. (1986), *Images of Organisation*, Sage, London.

Negroponte, N. (1995), *Being Digital*, Alfred A. Knopf, New York; Hodder & Stoughton, London.

New Scientist (1995), "Storming the barricades", *New Scientist*, 17 June, pp. 38-41.

Odlyzko, A.M. (1996), "Tragic loss or good riddance? The impending demise of traditional scholarly journals", in *Scholarly Publishing: The Electronic Frontier*, MIT Press, pp. 92.

Paine Webber Associates (1992), *Everyday Low Pricing: An Idea Whose Time Has Come*, Paine Webber Associates, New York.

Pascale, R. (1991), *Managing on the Edge*, Penguin, London.

Peppard, J. (1996), "Broadening visions of business process re-engineering", *Omega*, Vol. 24 No. 3, pp. 255-70.

Peters, D.P. and Ceci, S.J. (1982), "Peer review practices of psychological journals", *The Behavioural and Brain Sciences*, Vol. 5 No. 2.

Porter, M.E. (1985), *Competitive Advantage: Creating and Sustaining Superior Performance*, Free Press, New York.

Rathie, S.E. (1994), "Electronic journals and peer review: perils and promises", The University of British Columbia, available at http://www.cs.ubc.ca/spider/rathie/elecpub/.

Reichheld, F.F. and Sasser, W.E. (1990), "Zero effectiveness: quality comes to services", *Harvard Business Review*, September-October.

Rogers, E. (1983), *The Process by Which an Innovation is Communicated Through Certain Channels Over Time Among Members of a Social System*, The Free Press.

Schlesinger, L.A. and Heskett, J.L. (1991), "The service-driven service company", *Harvard Business Review*, September-October, pp. 71-81.

Schultz, E. (1994), "Traditional marketers have become obsolete", *Marketing News*, Vol. 28 No. 12, p. 11.

Selznick, P. (1949), *TVA and the Grass Roots*, University of California Press, Berkeley.

Seppala, U. and Holmstrom, J. (1995), "Rough modeling of logistics networks", *Integrated Manufacturing Systems*, Vol. 6 No. 5.

Simpson, N.C. and Erenguc, S.S. (1996), "Multiple stage production planning research: history and opportunities", *International Journal of Operations & Production Management*, Vol. 16 No. 6, pp. 25-40.

Stewart, G. (1995), "Supply chain performance benchmarking study reveals key to supply chain excellence", *Logistics Information Management*, Vol. 8 No. 2.

Stewart, T.A. (1992), "The search for the organization of tomorrow", *Fortune*, May, pp. 92-8.

Summers, D. (1993), "Rewards for the loyal shopper", *Financial Times*, 2 December, p. 14.

Talwar, R. (1994), "Re-engineering – a wonderdrug for the 90s", in Coulson-Thomas, C. (Ed.), *Business Process Re-engineering: Myth and Reality*, Kogan Page, London.

Teng, J.T.C., Grover, V. and Fielder, K.D. (1996), "Developing strategic perspectives on business process reengineering", *Omega*, Vol. 24 No. 3, pp. 271-94.

Thomas, G.S. and Kleiner, B.H. (1995), "New developments in organizing around markets", *Work Study*, Vol. 44 No. 8.

Treacy, M. and Wiersema, F. (1995), *The Discipline of Market Leaders*, Addison Wesley.

Turoff, M. and Hiltz, S.R. (1982), "The electronic journal: a progress report", *Journal of the American Society for Information Science*, Vol. 33 No. 4.

Waterman, R. (1992), *Adhocracy: The Power to Change*, W.W. Norton, New York.

Weber, R. (1987), "Toward a theory of artifacts", *Journal of Information Systems*, Spring.

Wills, G. and Wills, M. (1997), "Re-engineering knowledge logistics", *Logistics Information Management*, Vol. 10 No. 2.